

BUILT-ON ROLLER SHUTTERS

OB600

OB700

art. no. 065499

CONTENT

1.	INTRODUCTION	3
2.	THE BOXES	4
2.1.	Box construction	4
2.2.	Box types and sizes	5
2.3.	Box insulation values	6
2.4.	Colour options	7
2.5.	Plaster profile	8
3	DIMENSIONING	9
3.1.	Finished sizes	9
3.2.	General sizes	9
4.	GUIDE RAILS	10
4.1.	General	10
4.2.	Guide rail types	10
4.3.	Mounting	11
5.	SHUTTER CURTAIN	12
5.1.	Slats	12
5.2.	Attachment to the shaft	14
5.3.	roll-up tables	14
6.	OPERATION	16
6.1.	Motor-controlled operation	16
6.2.	Solar	17
6.3.	Electric motor connection	18
6.4.	Tape operation	19
6.5.	Crank handle operation	19
6.6.	Coiled spring	19
7.	DOOR-WINDOW COMBINATIONS	20
8.	SUPPLEMENTS	21
8.1.	Box extensions	21
8.2.	Locking devices	21
8.3.	Foil-covered window clip profile	22
8.4.	Acoustic insulation	22
9.	GENERAL REMARKS	23
10.	WIND RESISTANCE AND OPERATING CLASSES IN ACCORDANCE WITH NBN EN 13659	24
10.1	Compulsory application since 1 April 2006	24
10.2	Détermination des zones de vitesses de vent ou zones de charges de vent	24
10.3	Definition of the terrain or roughness category	25
10.4	Installation height	26
10.5	Wind resistance depending on slat and guide	27
11.	ORDER FORM OB600 - OB700	41

1. INTRODUCTION

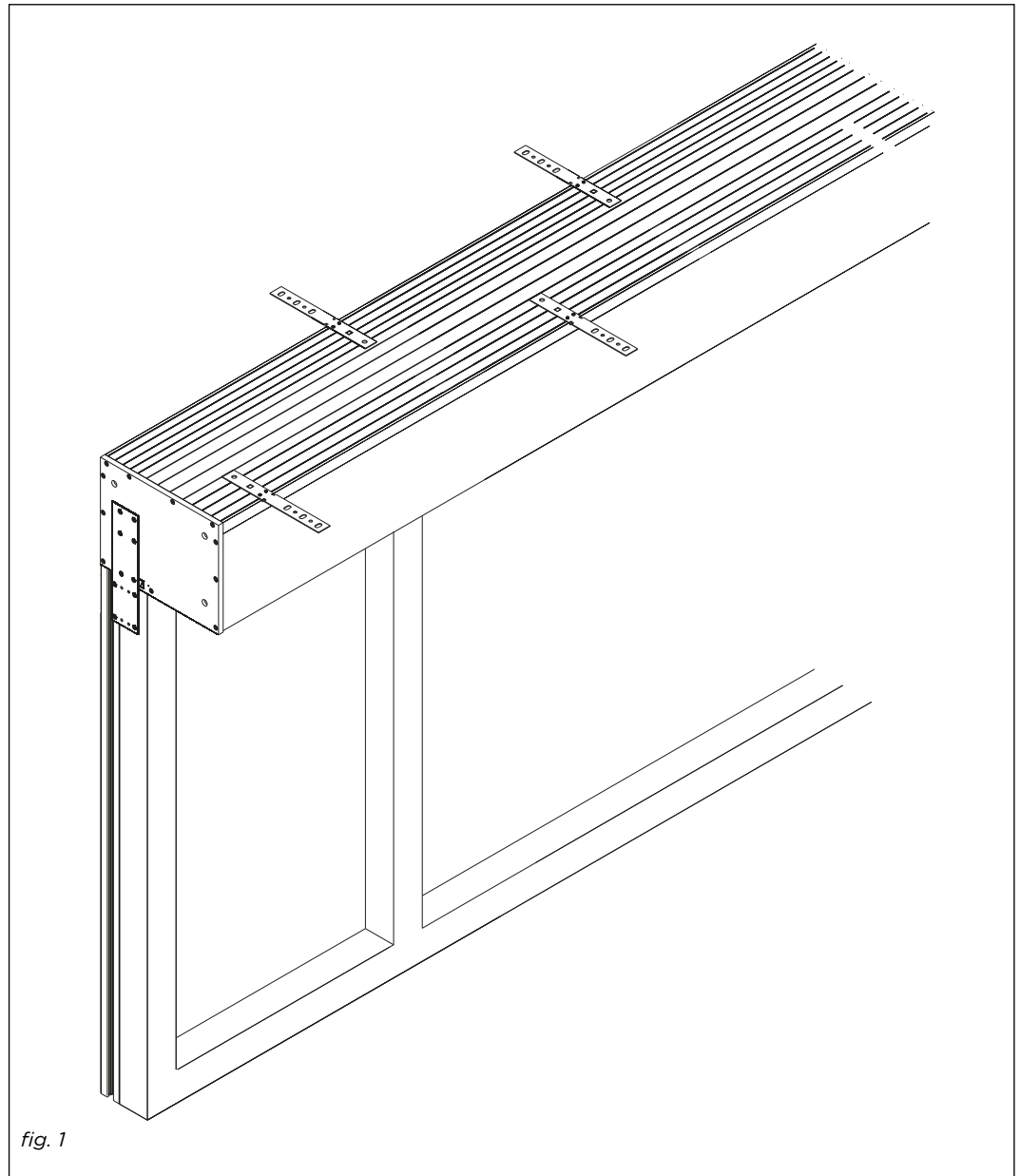


Figure 1:
Built-on shutter on
window

The OB600 and OB700 surface-mounted shutters are extremely efficiently insulated surface-mounted shutters, made with PVC boxes and fitted with Neopor insulation material as standard.

Both systems are attached to the window and then fitted into the wall as one complete unit.

They can be used for both renovation and in new-builds.

The differences between the OB600 and the OB700 consist mainly of the size of the boxes, their shape and the optional inspection openings. These and other details are further explained in the technical data sheet.

2. THE BOXES

2.1. Box construction

Both the OB600 and the OB700 are made of double-walled PVC panels that click together to form a single robust unit. The box is insulated with Neopor as standard. The connection between cabinet and window is made by frame anchors on the front sides, and a "click" profile on the window.

The OB600 and the OB700 are available in a wide range of colours. For fitting in a house with plastered walls, the box is supplied with an adapted outer profile and finishing strip.

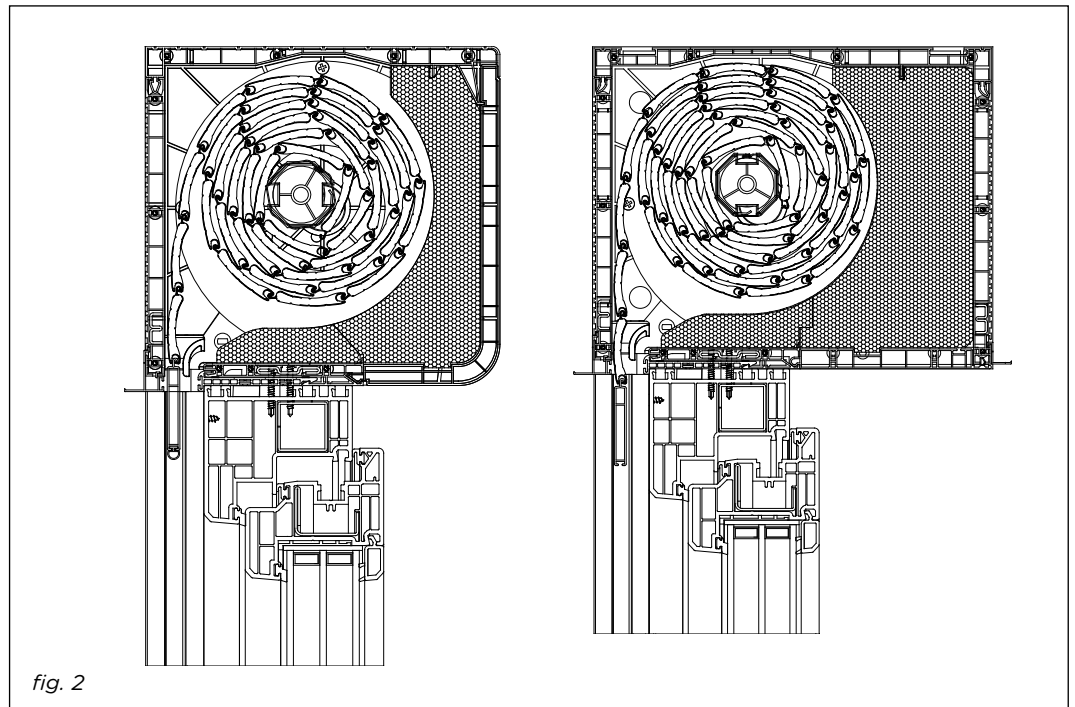


Figure 2:
Cross-section box
OB600 & OB700

Head pieces

- The box is sealed on the left and right with PVC head pieces.
- The base of the OB600 head pieces have a soft-edge finish on the inside, the OB700 is a square-edge model.
- The head pieces are fitted with an entry guide and a mounting plate.

Box panels

Material:

- Double-walled white PVC panels.

Colour options:

- See under 2.4 colour options.

Reinforcements:

- Reinforced front panel: standard from B > 1500mm.
- Reinforced bottom panel: standard from B > 2000mm;

2.2. Box types and sizes

OB600 and OB700 are available in both large and small models.

OB600

- Internal inspection opening is only accessible from the front.
- 2 sizes: 165x175 & 205x215.
- Cannot be plastered from the inside.
- Soft-edge.
- Max. window profile thickness= 100mm

OB700

- Internal inspection opening accessible from the front or the base for both box sizes
- For inspection from the base: max window profile thickness=100mm.
- 2 sizes: 205x255 & 245x255.
- The front (inside) can be plastered (for inspection from the base).
- Rectangular box.

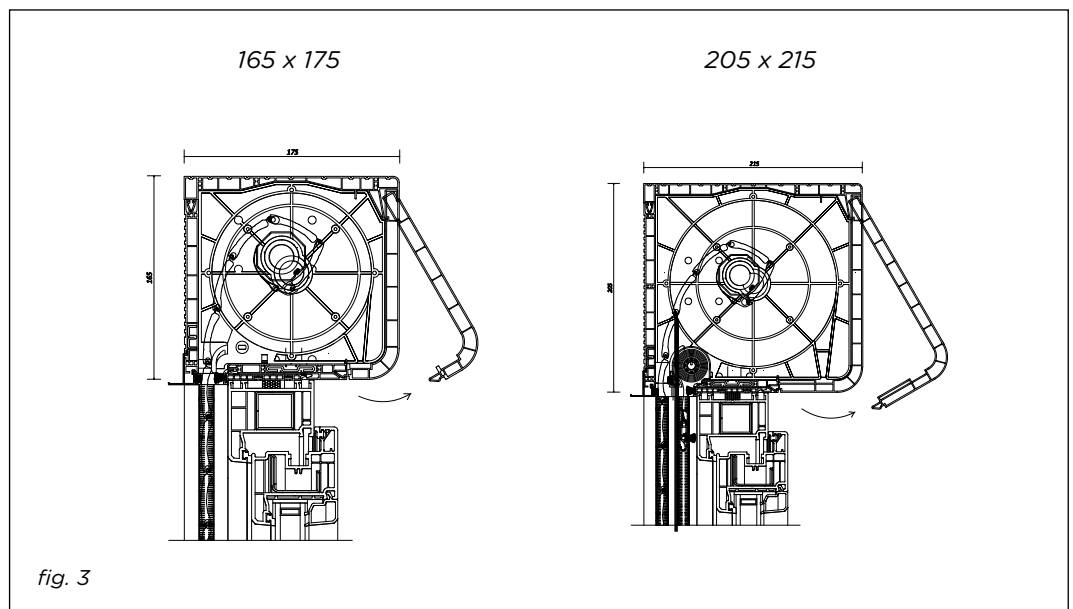


Figure 3:
Boxes OB600

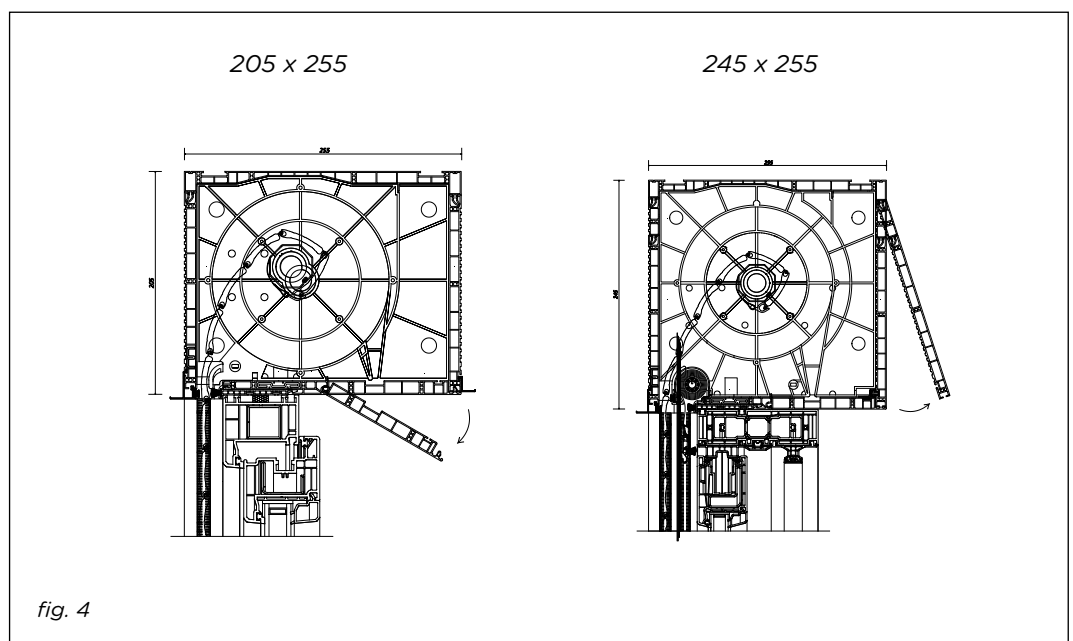


Figure 4:
Boxes OB700

2.3. Box insulation values

The box is supplied with thermal insulation as standard, and the additional option of acoustically insulating foil which can be adhered to the interior of the box. The acoustic values below are the values for boxes with acoustic insulation.

thermal values

TYPE	SIZE	U(W/M ² K)	F _{RSI} -VALUE
OB600	165x175	0.79	0.74
	205x215	0.78	0.72
OB700	205x255	0.68	0.70
	245x255	0.63	0.72

Table 1: thermal values

acoustic values

TYPE	SIZE	RW (DB) SHUTTER UP	RW (DB) SHUTTER DOWN
OB600	165x175	36 (0;-3)	38 (-2;4)
	205x215	39 (-2;-5)	38 (-1;4)
OB700	205x255	39 (0;-3)	39 (0;-3)
	245x255	38 (-1;-4)	39 (-2;-5)

Table 2: acoustic values

2.4. Colour options

standard:

- Entire box in white (RAL 9016)

optional:

1. Foil-covered box panels with side caps in one of 4 colour options

- Available combinations:
 - Foil-covered interior (IN):
all box panels that are visible inside the house are foil-covered
 - Foil-covered exterior (EX):
the exterior panel is foil-covered, note: the top 2cm remain white!
 - Foil-covered interior and exterior (IN&EX):
combination of the above two options.
- Bracket colours: white, brown, anthracite & cream.
- Foil colours:

AVAILABILITY OF FOIL COLOURS FOR BOX PANELS AND PVC CONDUCTORS	
foil number	description
LG04	mahogany
LG05	hazelnut
LG06	pin oak
LG07	golden oak
LG13	grey
LG14	charcoal grey
LG15	creamy white
LG20	cocoa brown
LG21	palisander
LG26	winchester
LG40	charcoal grey, smooth
LG41	quartz grey
LG42	basalt grey
LG44	basalt grey, smooth
LG46	metallic dark grey
LG47	brushed aluminium
LG49	sheffield oak, light
LG50	sheffield oak, alpine
LG51	sheffield oak, concrete
LG52	turner oak
LG53	Jet black matt

Table 3: available foil colours (for box guides)

note: colours not in bold are subject to a longer delivery time!

2. Panels painted in RAL colour

- All box panels that are visible inside the house are painted.
- The brackets will be painted in the same colour.
- Max width = 4500 mm.

3. ALU cover painted in RAL colour

- Aluminium cover is fitted over the exterior profile.
- Not compatible with:
 - exterior rendering profile.
 - exterior foil selected (EX).

2.5. Plaster profile

OB600:

- Only an exterior rendering profile possible (A)

OB700:

- Exterior and/or interior rendering /plastering profile possible (A and/or B)

remark:

- Inner plastering profile only available if revision from below is selected
- Exterior rendering profile cannot be combined with an ALU faceplate or a foiled external profile.

When selecting a plaster profile, a ribbed panel is fitted to the box as standard, to facilitate the plastering process. In order to achieve good adhesion between the roller shutter box and the plaster, the box should also be fitted with plaster mesh.

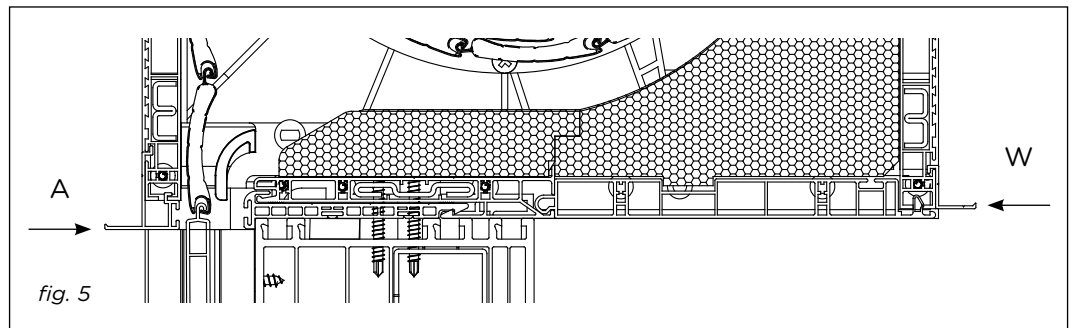


Figure 5:
plaster profiles for
Interior and Exterior

3 DIMENSIONING

3.1. Finished sizes

Finished width = width including rear of guide rails.

Finished height = height including box.

The clearance relative to the wall in W and H, is subtracted by the customer.

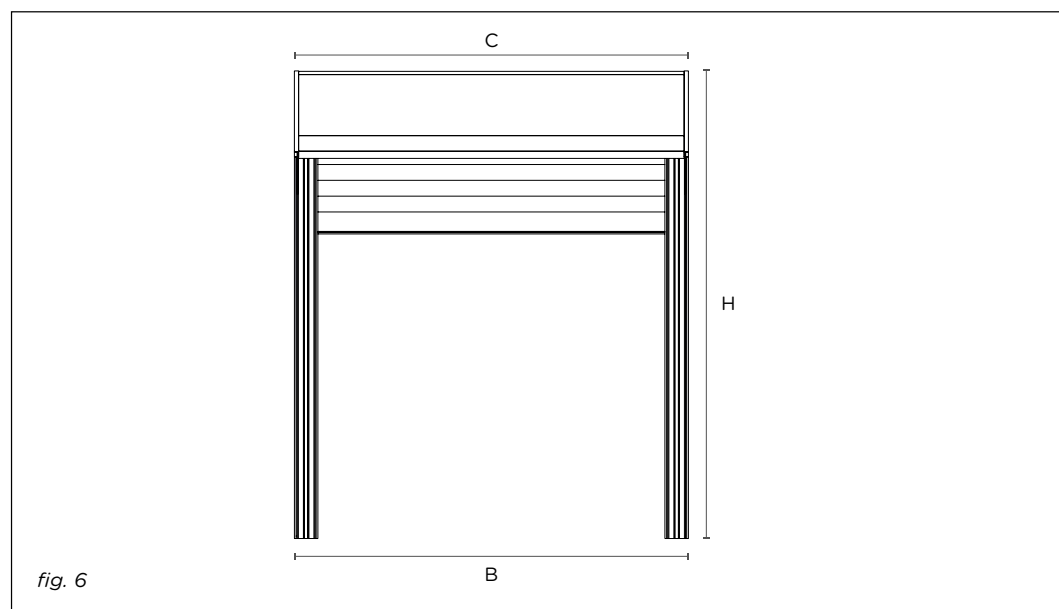


Figure 6:
Dimensions

W	finished width/rear of guide rails*
H	finished height = height including box
C	total width including box extensions



Please note: *When using the narrow guide AG37x35, the guide jumps 23mm on both sides from the rear window frame. (see page 41). The cabinet width remains the same as the window width.

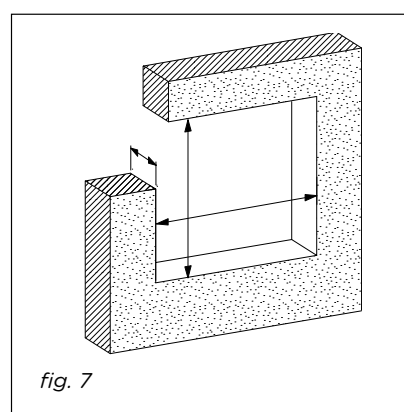


Figure 7:
Installation conditions



Please Note:

Always check that the selected box is suitable for the situation!

3.2. General sizes

Type	Size	box height	Box depth
OB600	165x175	166	175
	205x215	206	215
OB700	205x255	206	257
	245x255	246	257

Table 4: box dimensions

4. GUIDE RAILS

4.1. General

Material:

- Extruded Aluminium or PVC.

Colour:

- Aluminium: RAL colour range.
- PVC: standard 9016, foil optional. (colour options for foil see table 3 page 7)

Seals:

- The guide rails are fitted with brushes.
- This seal offers noise dampening for high-wind conditions.

4.2. Guide rail types

All guide rails can be used with the OB600 & the OB700.

The guide rails can be used as lateral guides and also as central guides (c).

The standard guide is the PG60x35.

PVC GUIDE RAILS	ALU GUIDE RAILS
STANDARD GUIDE RAILS	
PG(c) 60X35	AG(c) 60x35
SPACER GUIDE RAIL	
PG(c) 60X52	AG(c) 60x35 + AG(c) 60x17
	ALU adaption profile for guide channel

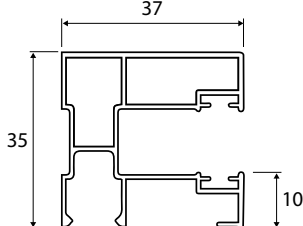
-	ALU GUIDE RAILS
SIDE GUIDE RAIL	
-	AG 37x35
 Please Note: See page 43 regarding AG 37x35 	

Table 5: compatible guide rails

Optional: cover caps for standard guide rails in white, brown or charcoal.

4.3. Mounting

- The guide rails are fixed to the window frames with self-tapping screws.
- The ALU and the PVC guide rails have different self-tapping screws.
- The number required depends on the height of the guide rails (window height/300mm).
- Positioning distance relative to the side of the window frame 30mm.

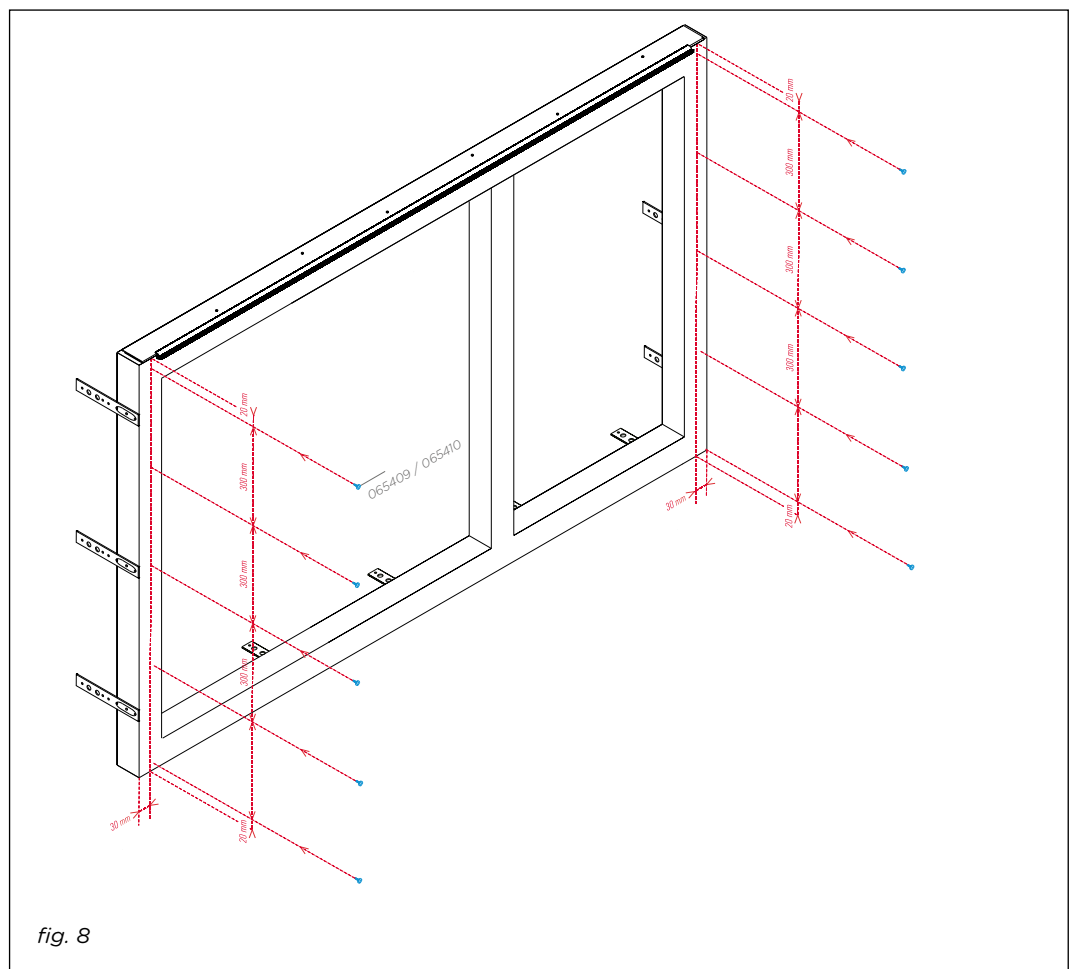
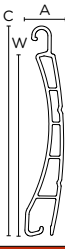


Figure 8:
position of self-tapping screws

5. SHUTTER CURTAIN

5.1. Slats

					
	PVC37	MIDI	ALU237	ALU242	ALU242S
slat thickness (A) (mm)	7.8	9	7.8	9.3	9.3
covering height (B) (mm)	37.1	38.5	37.0	42.0	42.0
total height (C) (mm)	43.2	46.5	42.7	48.8	48.8
number of slats per metre of height	27	26	27	23.8	23.8
net weight (kg/m ²)	2.86	3.5	2.80	2.85	4.32
gross weight (kg/m ²)	3.71	4.55	3.64	3.705	5.616
maximum width (mm)	1600	2400	3000	4000	4000
maximum height (mm)	2400	3000**	3000	3000	3000
maximum area (m ²)	3	5	7	9	10
resistance value ΔR (m ² K/W)	0.19	0.21	0.16	0.16	0.16
resistance value R_{SH} (m ² K/W)	0.065	0.088	0.03	0.03	0.03

*The harder foam used in the ALU242S slat makes it suitable as a safety slat.

**MIDI: if $B > 2000 \rightarrow H_{max} = 2000$

Table 5: slat details

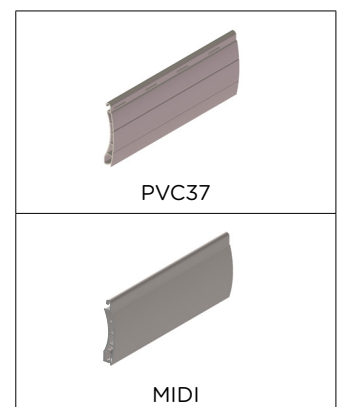
Material:

- PVC37 and MIDI: double-walled plastic.
- ALU237, ALU242 and ALU242S*: double-walled, foam-insulated aluminium.

Colour tables:

	PVC	
	PVC39	MIDI
RAL 9016 (white)	x	x
Harol grey	x	x
Harol beige	x	x
RAL 9001 (creamy white)	x	x

Table 6: PVC colour chart



TECHNICAL SPECIFICATIONS BUILT-ON ROLLER SHUTTER OB600 & OB700

				STANDARD ALU-SLATS		
		RAL	CODE	ALU237	ALU242	ALU242S
STANDARD COLOURS	white	±9016	01	x	x	x
	brown	±8028	03	x	x	x
	Alu-metallic	±9006	07	x	x	x
	Light grey	±7038	23	x	x	
	White cream	±9001	27	x	x	x
	anthracite grey	±7016	38	x	x	
	quartz grey	±7039	43	x	x	
	aluminum grey	±9007	85	x	x	
	black	±9005	90	x	x	
SUPPLEMENTAL COLOURS	low gray	±7035	02	x	x	x
	light beige	±1013	04	x	x	x
	dark beige	±1011	05	x		
	Bronze		09	x		
	oak		11	x		
	teak		12	x	x	
	moss-green	±6005	13	x	x	
	purple red	±3004	14	x	x	
	metallic dark grey	±9009	18	x	x	
	golden oak		22	x	x	
	pine green	± 6009	28		x	
	grey brown	±8019	30		x	
	velvet grey	±7047	37	x		
	steel blue	±5011	39		x	
	basalt grey	±7012	44	x	x	
	concrete grey	±7023	45	x		
	black grey	±7021	46	x	x	
	santiago grey	±9018	62			
	cream	±1015	84	x	x	
	walnut		86	x		
	black sablé	±2100	95	x		

Table 7: ALU colour chart



Figure 9: Slats

Light and ventilation slot options:

- Without daylight (code 0).
- 1/3 daylight (code 1).
- 1/2 daylight (code 2).
- 2/3 daylight (code 3).
- 1/1 daylight (code 4) (7 solid slats at the top, the remainder with light and ventilation slots). The slats with light and ventilation slots are always at the bottom.
- Reflection of small traces of light between closed light slats or between panel and guide rail are inherent properties of the product and cannot be prevented. If the roller shutter is required for a complete blackout, it is best not to select daylight slats.

5.2. Attachment to the shaft

- Electrically operated using Oximo IO (standard), Ilmo, Silensio RS100: suspension links. The suspension links are fitted with protective felt as standard.
- On all others: suspension using flocked suspension springs (three per metre of width).

5.3. roll-up tables

- OB600 & OB700 are supplied as standard with Neopor box insulation.
- Optionally there is the choice of a cabinet without insulation, however, this has a negative influence on the U-value, but increases the maximum height per cabinet.

roll-up tables with insulation (standard)

OXIMO, SILENSIO RS100, ILMO					
type		OB600		OB700	
Slat	SHAFT	165X175	205X215	205X255	245X255
PVC37	40				
	60	1250	2400	2400	2400
MIDI	40				
	60	980	1980	1980	3000
ALU237	40				
	60	1100	2400	2500	3000
ALU242/S	40				
	60	930	1810	2020	3000

Table 8: roll-up table for suspension links

TAPE, CRANK, COILED SPRING, LT, LS, ALTUS AND SOLUS					
type		OB600		OB700	
Slat	SHAFT	165X175	205X215	205X255	245X255
PVC37	40	1230	2400	2400	2400
	60	1080	2280	2400	2400
MIDI	40	820	1740	1740	3000
	60	660	1590	1700	3000
ALU237	40	1270	2490	2670	3000
	60	1120	2340	2490	3000
ALU242/S	40	800	1520	1770	3000
	60	630	1600	1890	3000

Table 9: roll-up table for suspension springs

DVA					
type		OB600		OB700	
Slat	SHAFT	165X175	205X215	205X255	245X255
PVC37	40	1200	2330	2400	2400
	60	690	2070	2290	2400
MIDI	40	800	1520	1700	3000
	60	600	1520	1700	2950
ALU237	40	1000	2100	2500	3000
	60	600	1900	2200	3000
ALU242/S	40	800	1400	1900	2600
	60	600	1400	1500	2400

Table 10: roll-up table for DVA suspension system

Roll-up tables for boxes without insulation*

OXIMO, SILENSIO RS100, ILMO					
type		OB600		OB700	
Slat	SHAFT	165X175	205X215	205X255	245X255
PVC37	40				
	60	2170	2400	2400	2400
MIDI	40				
	60	1600	2640	2520	3000
ALU237	40				
	60	1840	3000	3000	3000
ALU242/S	40				
	60	1560	2300	2600	3000

Table 11: roll-up table for suspension links

TAPE, CRANK, COILED SPRING, LT, LS, ALTUS AND SOLUS					
type		OB600		OB700	
Slat	SHAFT	165X175	205X215	205X255	245X255
PVC37	40	1940	2400	2400	2400
	60	1900	2400	2400	2400
MIDI	40	1320	2240	2470	3000
	60	1280	2360	2390	3000
ALU237	40	1860	3000	3000	3000
	60	1900	3000	3000	3000
ALU242/S	40	1520	2570	2570	3000
	60	1430	2400	2400	3000

Table 12: roll-up table for suspension springs

DVA					
type		OB600		OB700	
Slat	SHAFT	165X175	205X215	205X255	245X255
PVC37	40	1840	2400	2400	2400
	60	1430	2400	2400	2400
MIDI	40	1290	2200	2400	3000
	60	1090	2290	2300	3000
ALU237	40	1500	3000	3000	3000
	60	1400	2700	2700	3000
ALU242/S	40	1200	2300	2300	3000
	60	1100	2200	2200	3000

Table 13: roll-up table for DVA suspension system

* If without insulation, but with the reinforcement brackets, the standard roll-up tables need to be observed (= with insulation)

6. OPERATION

6.1. Motor-controlled operation

	SOMFY ILMO	SOMFY ILMO S	SOMFY LS40	SOMFY LS40 ARIES SHORT	SOMFY LT50	SOMFY RDO50 CSI	SOMFY OXIMO WT	SOMFY OXIMO IO ¹	SOMFY OXIMO 40 IO	SOMFY S AUTO IO	SOMFY SOLUS	SILENSIO RS100 IO	SOMFY ALTUS 50 IO	RS100 SOLAR IO	HAROL PRIMO	HAROL SECURE	HAROL SOLAR PURE
SHAFT	60	60	40	40	60	60	60	60	40	60	60	60	60	60	60	60	60
MINIMUM WIDTH (MM)	745	605	625	580	745	1015	845	845	645	605	745	705	845	655	815	815	890
MAXIMUM TORQUE (NM)	35	6	9	4	50	40	40	40	13	6	40	20	50	20	30	30	20
CONTROLS	switch						transmitter			switch	transmitter			switch	transmitter		
EMERGENCY MANUAL OPERATION						X											
END POSITIONS	automatic		push button			set	transmitter			set	transmitter			set	transmitter		
LATH STOPS ON BL	X	X					X ⁵	X ⁵	X ⁵	X		X ⁵		X			
HHO ²	X	X					X	X	X	X		X		X	X	X	X
HHN ³	X	X					X	X	X	X		X		X	X	X	X
OPTIONAL ABS AVAILABLE ⁴					X	X					X		X				
CABLE LENGTH	3	3	2.5	3	3	2.5	3	5	3	3	2.5	5	5		2.5	2.5	0.2
LUG REQUIRED	X	X						X		X		X		X			
OPTIONAL CABLE 5M	X			X	X	X	X								X	X	X
OPTIONAL CABLE 10M	X			X	X	X	X	X					X				
CONNECT IN PARALLEL	X	X						X		X		X					

Table 14: Motor types

¹ Standard motor

² HHO = Obstacle detection in upward direction.

³ HHN = Obstacle detection in downward direction.

⁴ ABS = stops the downward movement of the curtain when the bottom lath hits an obstacle (can only be fitted with motors up to max. torque of 30 Nm).

⁵ Option 2127 makes it possible to choose: without lath stops.

Note: end points must be set manually at the top and bottom

Exit:

– Standard exit = H

Other options: D, B or C
or to the side of HZ or DZ.

– Exit NHB:

For left hand operation: exit B or A.

For right hand operation: exit C or O.

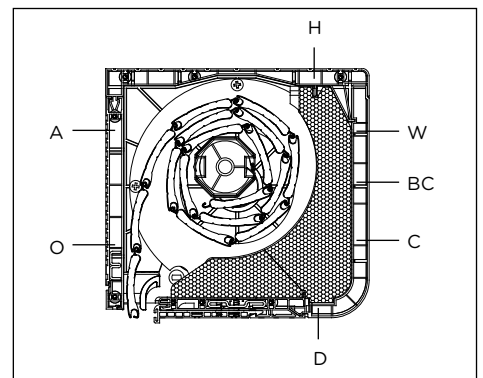


fig. 10

Figure 10:
operating exits

6.2. Somfy Solar Motor

An autonomous solar energy system with all the advantages of the RS100 Silensio motor (IO).

- Option numbers: A4118 RS100 Solar IO (6/10Nm) or A4119 RS100 Solar IO (15/20Nm).
- The solar panel is always supplied separately, with a 1m extension cable as standard.
- A maximum of 1 panel is always installed, regardless of the orientation of the roller shutter.
- With the OB600 165x175 the battery must be placed externally, with the other cabinets the battery is standard in the cabinet.
- The minimum width = 655mm.

Options:

- A4116 battery supplied separately (+/-10cm cable length!!).
- A1612/A4122 battery with Aluminum case supplied separately (+/- 45cm cable length).
- A1613 5m solar panel extension cable.
- art.066451 if a longer cable (1m) is required for an external battery.

		RS100 SOLAR IO 6/10NM (A4118)	RS100 SOLAR IO 15/20NM (A4119)
MOTOR			
	type of motor	RS100 Silensio IO	RS100 Silensio IO
	motor power	6- 10Nm	15/20Nm
	diameter	Ø50	Ø50
	speed	6/15 10/12 rpm	15/12 20/12 rpm
SOLAR PANEL			
	panel type	monocrystalline	monocrystalline
	power	2,5W	5,8W
	dimensions	370x60x6mm	500x90x6mm
	life time	>20 years	>20 years
BATTERY			
standard 	battery type	NiMH	NiMH
	capacity	9,6V DC	16,8V DC
	dimensions	340x23mm	595x23mm
	cable length	10cm	10cm
optional 	battery type	NiMH	NiMH
	capacity	9,6V DC	16,8V DC
	dimensions	481x23mm	736x23mm
	cable length	21cm	21cm

Table 15 : main characteristics of SOLAR components

Note:

- Warranty on the motor, solar panel and battery is 7 years
- After purchase, the roller shutter must be installed within a month, otherwise the battery must be recharged
- The motors are delivered in sleep mode. When light falls on the solar panel, it awakens automatically.
- When using Chronis, Keypas IO or Keygo, "low power mode" must be activated.
- The RS100 Solar IO is not compatible with Smooove Sensitive RS100 IO, animeo Connect or IP/IO, and Set&Go



With the somfy solar app you can find out in 3 steps what the ideal solution is for your situation. (App downloadable from AppStore or Google Play)

6.3. Harol Solar motor

This is a self-contained solar-powered system.

- The solar panel is installed on the S-type box.
- The panel is always located on the motor side.
- One panel is always installed, regardless of the orientation of the roller shutter.
- The battery is built into the motor.
- With a northern orientation, one cycle per day is guaranteed.
- Ensure that sunlight can reach the solar panel when installing the roller shutter!

		SOLAR PURE
MOTOR		
	motor type	Solar Pure
	motor power	10- 20Nm
	diameter	Ø50 mm
	speed	12 tpm
	battery	Built-in battery
	battery type	Li-ion
	battery capacity	5000 mAh
	cable length	20 cm
ZONNEPANEEL		
	solar panel type	monokristalijn
	capacity	4,7 kw
	dimensions	600 x 62 mm
	lifetime	7 jaar

Note:

- 5-year warranty on motor, solar panel and battery
- after purchase, the roller shutter must be installed within one month, otherwise the battery must be recharged
- The motor is activated via the on/off button.
- The Harol Solar motor is not available for OB700 with inspection from the base.

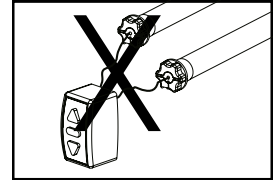
Attention:

- Only 40 cm of pre-connected cable is available between the motor (center of the box) and the solar panel on the exterior of the facade. This length may be insufficient for large housing sizes. Please note that a Harol extension cable is not (yet) available.

6.4. Electric motor connection

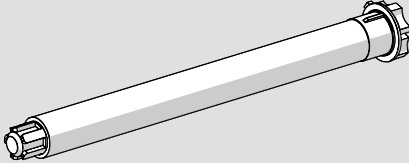
Motor:

- All electrical connections have to be made by a qualified fitter/electrician. Electrical fitting- and connection diagrams have to be applied in a correct way and have to be conform the local norms and/or demands in vigor. All the motors are supplied with the necessary diagram's and manuals for the chosen type of motor and/or domotical accessories..
- NEVER CONNECT 2 MOTORS TO 1 END SWITCH.
If you want to connect several motors to one or more end switches, always use relay boxes





see instruction manual Somfy (included)

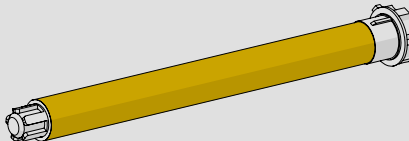


www.somfy.com





see instruction manual



www.harol.com



6.4. Tape operation

- Minimum width for tape operation: 300mm.
- Tape width = 14mm.
- Tape operation is possible up to a net shutter weight of 12kg, if greater then tape acceleration 2:1 is required.
- Tape with acceleration is not available for the OB600 165x175.
- Standard: grey tape and white surface-mounted winder.
- Standard exit = D. In other cases a front exit can be selected (BC).
- Tape length:
 - Standard: $2 \times \text{height} + 1500\text{mm}$.
 - 2: 1: $3 \times \text{height} + 1500\text{mm}$.

Options:

- Gearing 2/1
- Built-in tape coiler instead of surface-mounted tape coiler (option A78).
- Tape and tape coiler colours can be selected by the customer.

6.5. Crank handle operation

- Minimum width for crank handle operation: 300mm.
- Fixed crank.
- Crank operation up to a maximum torque of 18Nm is available.
- Standard supplied with crank and crank clamp.
- Standard exit = D. In other cases a front exit can be selected (BC).

H	CRANK LENGTH
≤ 1800	1500
≤ 2050	1800
> 2500	2500

Table 17: crank length

Options:

- Without crank (option A 209).
- Detachable crank (option A 57).
- White crank and crank clamp instead of grey (option A 408).

6.6. Coiled spring

- Minimum width for coiled spring: 810 mm.
- Coiled-spring operation is possible up to a maximum torque of 17.65 Nm.
- Must always be used in combination with a locking device.
- Only possible with curtains without light and ventilation slots (light code = 0).
- Pull rod and orbit standard for guide rail length greater than 2100 mm.
- Fitted standard with 4 built-on hand grips on the bottom lath. If an intermediate slat with flush-mounted hand grips is selected, then two bottom lath stops are fitted to the bottom lath.

Options:

- Pull rod and orbit for guide rail length ≤ 2100 mm (option A116).
- Coiled spring without locking device (option A1104).

7. DOOR-WINDOW COMBINATIONS

- Option to use a single continuous box for two or three roller shutters.
 - DVC: directly adjoining roller shutters.
 - DVS: small gap between individual roller shutters.
- Individual or collective operation is available.
 - Coupled operation: only possible if the coupled parts are of equal height.
 - The shafts are coupled in the central bearing using a double shaft plug.
- Maximum box width: 6 m.
- No central operation possible.

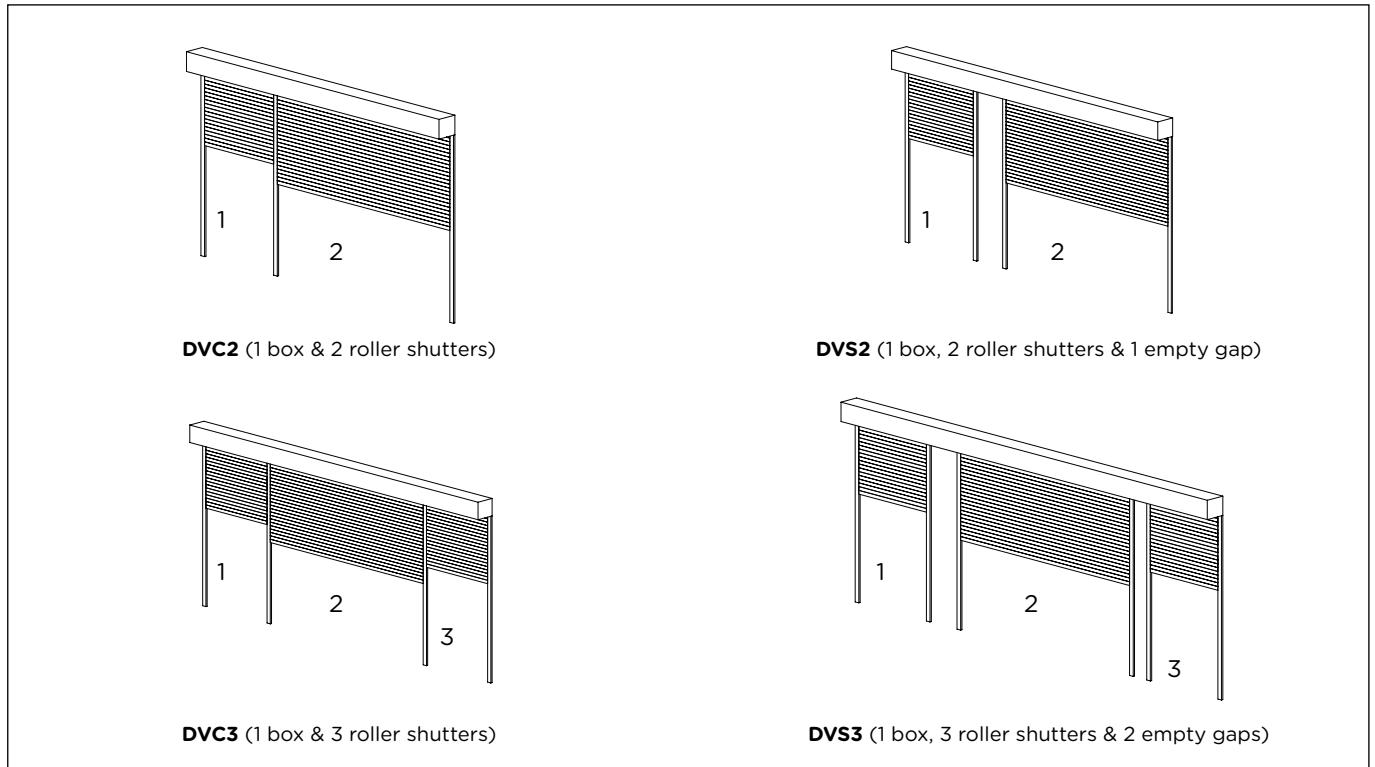
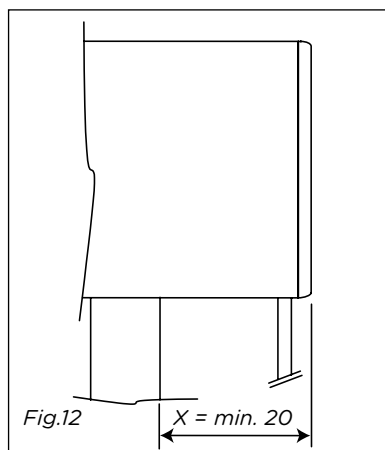


Figure 11:
Door and window combinations

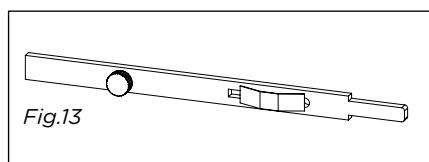
8. SUPPLEMENTS

8.1. Box extensions

- In the event that the operating exit needs to be located in a different position from the standard position.
- If the box needs to be extended for aesthetic reasons.
- Choice of the following types:
 - Box extension made-to-measure:
staggered operating exit and proportional extension of the box (minimum of 20 mm)
 - Mock box extension:
empty stretch of box, only possible on the opposite side.

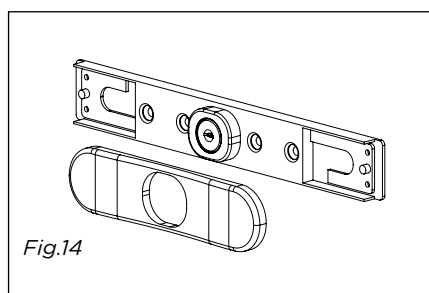


8.2. Locking devices



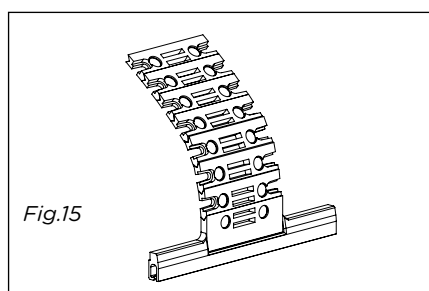
Bolt: (Fig. 13)

- Is fitted in the bottom lath.
- Can only be operated from inside.



Cylinder lock: (Fig. 14)

- Fitted in the bottom lath or in the intermediate slat.
- The intermediate slat can be positioned directly above the bottom lath.
- Can be operated from inside and outside.



Automatic locking device DVA: (Fig. 15)

- Lift security system.
- Can only be used with crank handle operation or electric operation.
- The DVA system is specially designed to fully block the shutter curtain.
- Increases the roll-up diameter (see tables 12 & 15).

8.3. Foil-covered window clip profile

The window clip profile is white as standard.
Optionally, it can be foil-covered in the following colours:

LG15	cream
LG14	charcoal
LG41	quartz grey
LG07	golden oak

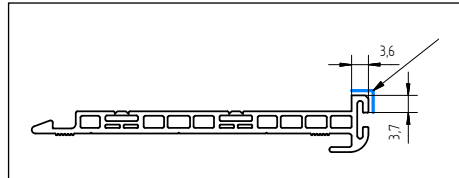


Figure 16:
window clip profile with
foil

The foil-covered part is indicated in blue

8.4. Acoustic insulation

- Self-adhesive.
- Adheres to the inside of the box.

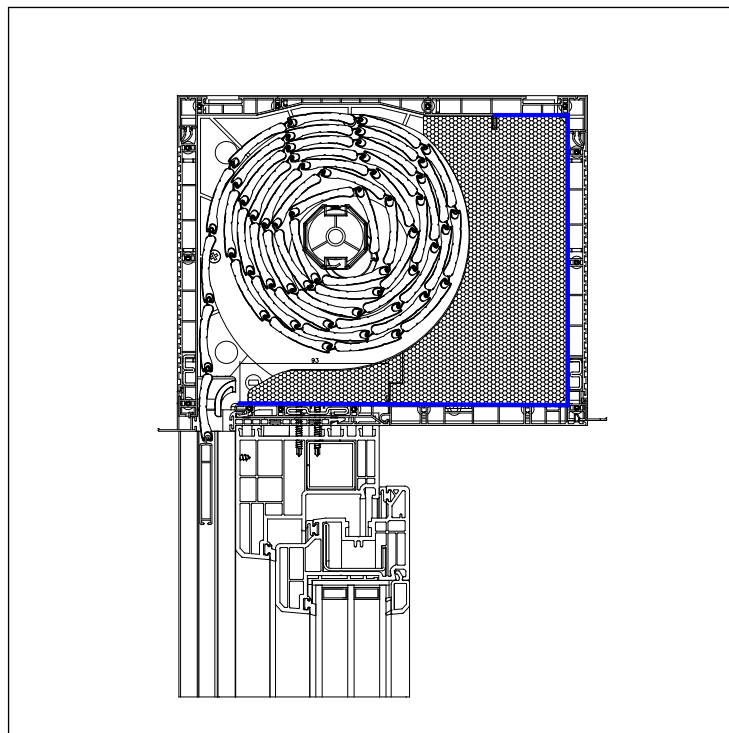


Figure 17:
acoustic insulation

9. GENERAL REMARKS

- The surfaces of the slats can become slightly marked due to friction between the slats during rolling up and rolling down. This is a natural consequence of normal use of the product and is thus not covered by the warranty.
- Reflection of small traces of light between closed light slats or between panel and guide rail are inherent properties of the product and cannot be prevented. If the roller shutter must darken as optimally as possible, it is best not to select daylight slats. The slats with a smaller roll-up (alu39, PVC37) are also more sensitive to light transmission than the larger slats (ALU242(S) and midi).
Note: a roller shutter never darkens 100%.
- All electrical connections must be made in accordance with the legal regulations of the relevant country. Electrical connections and correct operation are the responsibility of the installer.
- Harol does not accept any liability whatsoever for shutter curtains that detach as a result of wind or a storm. The installer must take all necessary precautionary steps to ensure that the product ordered is suitable for the installation site.
- Under no condition should the built-on roller shutter be viewed as a structural component that contributes to the reinforcement of the window, regardless of the way the built-on roller shutter is fitted.
- The built-on roller shutter must only be mounted on self-supporting structures that have a sufficient degree of strength to carry a built-on roller shutter.
- A roller shutter with a width bordering on the maximum dimensions of the selected slat type increases the risk of bending and a less rigid panel. However, this does not affect the quality of the product.
- In order to obtain a good adhesion between the shutter box and the plaster, the box must be supplied with plaster mesh.
- When choosing dark-coloured slats please pay attention to the following: mutual friction can cause scratches on all types of slats. These scratches are more visible on dark colours than on light-coloured slats. Dark-coloured slats are also more susceptible to influences from high temperatures. When heated, these slats will expand more strongly than their lighter counterparts and, when used for the first time after shutting down, there may be a creaking noise as a result of mutual adhesion of the slats due to these high temperatures. And because of the greater absorption value of dark colours, the thermal value of the darker slats will consequently be less good than that of light-coloured slats. Please take the above points into account when choosing the most suitable slat for the desired situation.
- All information in this brochure is provided in good faith and is for informational purposes only. It reflects the present state of our expertise and cannot be used against us.
Harol reserves the right to make product changes without prior notice.

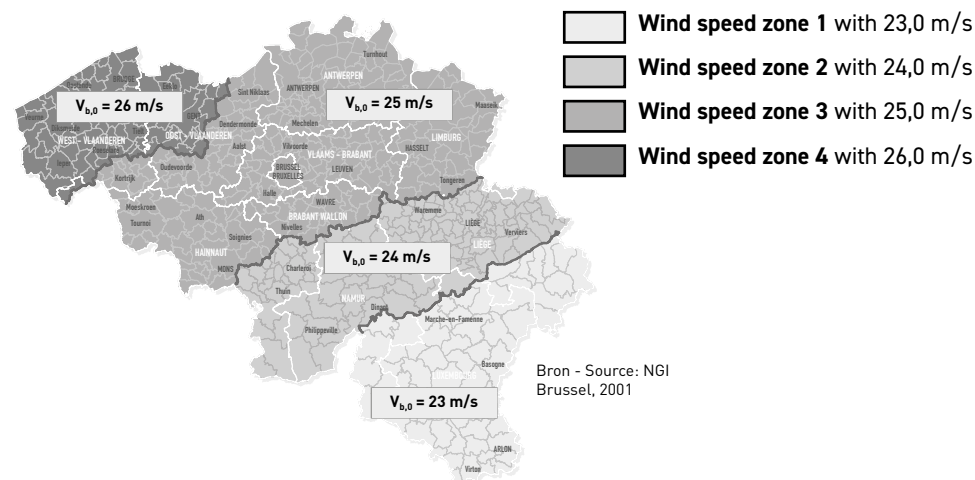
10. WIND RESISTANCE AND OPERATING CLASSES IN ACCORDANCE WITH NBN EN 13659

10.1 Compulsory application since 1 April 2006

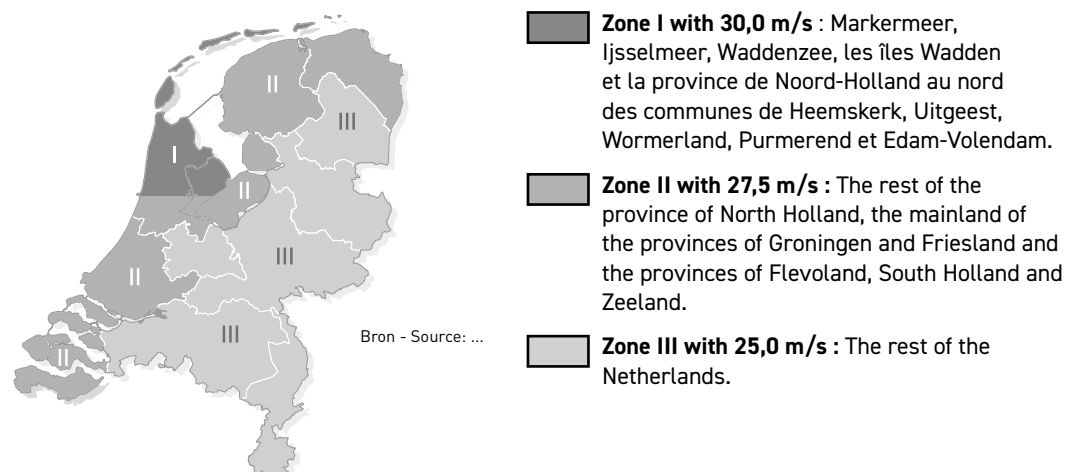
The new NBN EN 13659 standard has been in force since 1 April 2006. In accordance with this standard, from that date onwards roller shutters must carry a CE mark that also shows the wind resistance class. There are standards and guidelines for different countries in order to define which wind resistance class is necessary for which application. For Germany, the German “Bundesverband Rolladen und Sonnenschutz” commissioned the development of an IFT guideline entitled “Application advice for external closures”. This guideline (DIN 1055-4:2005-3) divides the territory of Germany into wind speed or wind load zones and terrain categories. In this way, the applicable wind speed zone and terrain category can be derived from the location of the building. The installation height of the closures indicates the third necessary reference measurement. For Belgium, everything is shown in standard NBN EN 1991-1-4 and the territory is divided into four wind speed zones. The Netherlands is divided into three wind speed zones in accordance with standard NEN-EN 1991-1-4: 2005/NB:2007 and France has four wind speed zones in accordance with standard DTU 34.2. For other countries, ask the local meteorological services for the values!

10.2 Détermination des zones de vitesses de vent ou zones de charges de vent

Belgium



The Netherlands

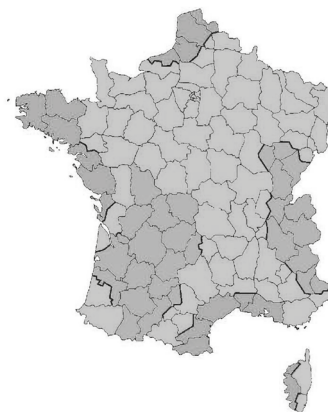


Germany



Bron - Source:
DIN 1055-4:2005-3

France



Bron - Source: ...

	Wind load zone 1 with 22,5 m/s
	Wind load zone 2 with 25,0 m/s
	Wind load zone 3 with 27,5 m/s
	Wind load zone 4 with 30,0 m/s

	Wind load zone 1 with 22,0 m/s
	Wind load zone 2 with 24,0 m/s
	Wind load zone 3 with 26,0 m/s
	Wind load zone 4 with 28,0 m/s

10.3 Definition of the terrain or roughness category

	Terrain category 0 <i>(The most stringent)</i> Sea or coastal area with wind flowing over the open sea.
	Terrain category I Lakes or flat and horizontal area with negligible vegetation and no obstacles.
	Terrain category II Area with low vegetation such as grass, with or without a few free-standing obstacles (trees, buildings) with a distance between them of at least 20 times their height (= gap of at least 20 obstacle heights).
	Terrain category III Area with regular overgrowth or buildings or isolated obstacles with a gap of no more than 20 obstacle heights (e.g. villages, peri-urban areas, sustainable forests etc.)
	Terrain category IV <i>(The least stringent)</i> Urban areas where at least 15% of the surface area is covered with buildings with an average height of over 15 metres.

10.4 Installation height

In addition to the wind speed zone and the terrain category, the installation height also plays a role in defining the wind resistance classes. The table below shows the recommended wind resistance class depending on the installation height in accordance with the applicable standards in each country.

The minimum class in the application advice notes is wind resistance class 2. That does not mean that class 0 or class 1 products must not be used. However, a product with the relevant wind resistance class is recommended to define a particular quality level.

BELGIUM	Terrain category	Installation heights > 0 - 8 metres				Installation heights > 8 - 20 metres				Installation heights > 20 - 100 metres			
		Wind speed zone				Wind speed zone				Wind speed zone			
		1 23 m/s	2 24 m/s	3 25 m/s	4 26 m/s	1 23 m/s	2 24 m/s	3 25 m/s	4 26 m/s	1 23 m/s	2 24 m/s	3 25 m/s	4 26 m/s
	0	3	4	4	4	4	4	4	5	4	5	5	5
	I	3	4	4	4	4	4	4	5	4	5	5	5

THE NETHERLANDS	Terrain category	Installation heights > 0 - 8 metres			Installation heights > 8 - 20 metres			Installation heights > 20 - 100 metres		
		Wind speed zone			Wind speed zone			Wind speed zone		
		1 30 m/s	2 27,5 m/s	3 25 m/s	1 30 m/s	2 27,5 m/s	3 25 m/s	1 30 m/s	2 27,5 m/s	3 25 m/s
	0	4	4	4	5	5	4	6	5	5
	I	4	4	4	5	5	4	6	5	5

FRANCE	Terrain category	Installation heights > 0 - 8 metres				Installation heights > 8 - 20 metres				Installation heights > 20 - 100 metres			
		Wind speed zone				Wind speed zone				Wind speed zone			
		1 22 m/s	2 24 m/s	3 26 m/s	4 28 m/s	1 22 m/s	2 24 m/s	3 26 m/s	4 28 m/s	1 22 m/s	2 24 m/s	3 26 m/s	4 28 m/s
	0	3	4	4	4	4	4	5	5	4	5	5	5
	I	3	4	4	4	4	4	5	5	4	5	5	5

GERMANY	Terrain category	Installation heights > 0 - 8 metres				Installation heights > 8 - 20 metres				Installation heights > 20 - 100 metres			
		Wind speed zone				Wind speed zone				Wind speed zone			
		1 22,5 m/s	2 25,0 m/s	3 27,5 m/s	4 30,0 m/s	1 22,5 m/s	2 25,0 m/s	3 27,5 m/s	4 30,0 m/s	1 22,5 m/s	2 25,0 m/s	3 27,5 m/s	4 30,0 m/s
	0	3	4	4	4	4	4	5	5	4	5	5	6
	I	3	4	4	4	4	4	5	5	4	5	5	6

10.5 Wind resistance depending on slat and guide

ALU237

guide	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000
PG60x35/PG60x52/ PH60x52/AG60x35/ AG37x35	6							5	4		3			2			1				

ALU242(S)

guide	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000
PG60x35/PG60x52/ PH60x52/AG60x35/ AG37x35	6												5		4		3			2			1		0						

PVC37

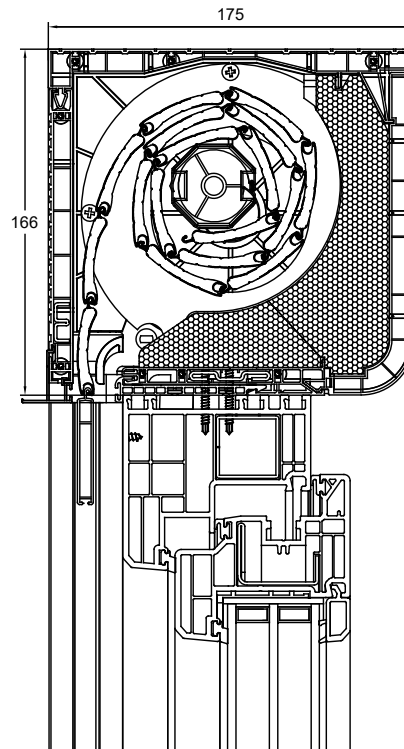
guide	1000	1100	1200	1300	1400	1500	1600
PG60x35/PG60x52/ PH60x52/AG60x35/ AG37x35	3	2	1	0			

MIDI

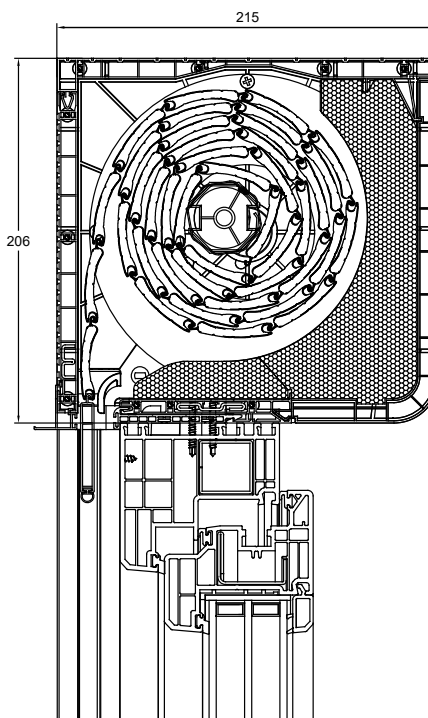
guide	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
PG60x35/PG60x52/ PH60x52/AG60x35/ AG37x35	4	3	2	1	0										

APPENDIX: BOX CROSS-SECTIONS

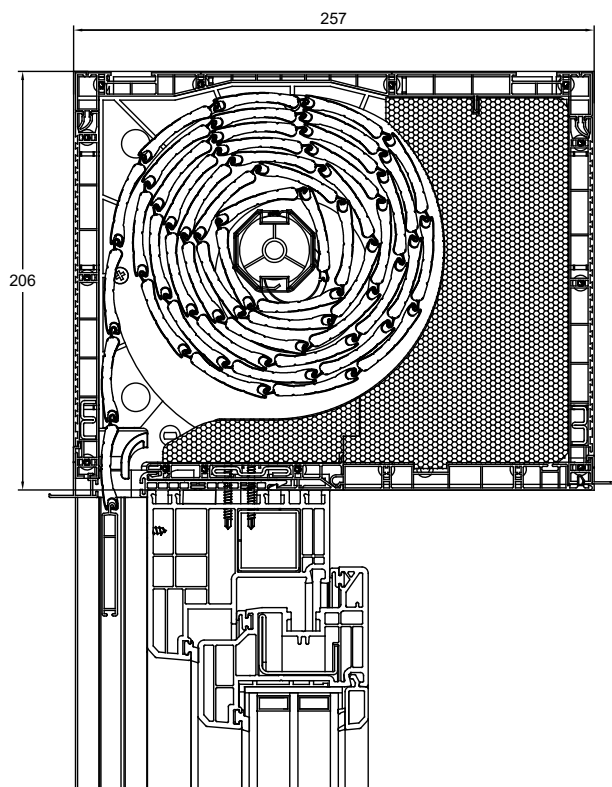
OB600 165x175



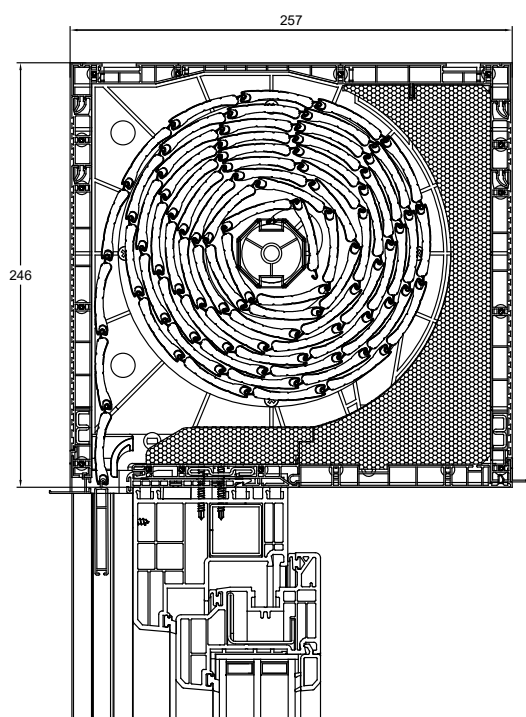
OB600 205x215



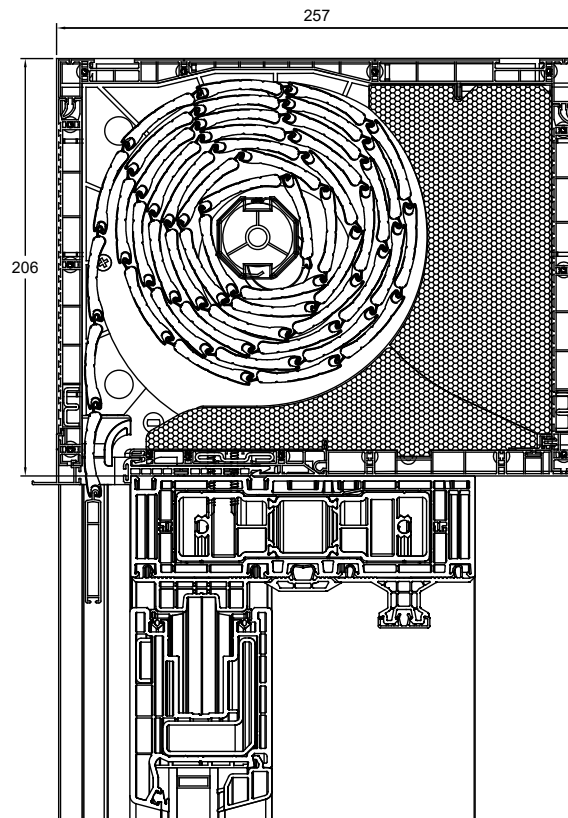
OB700 205x255



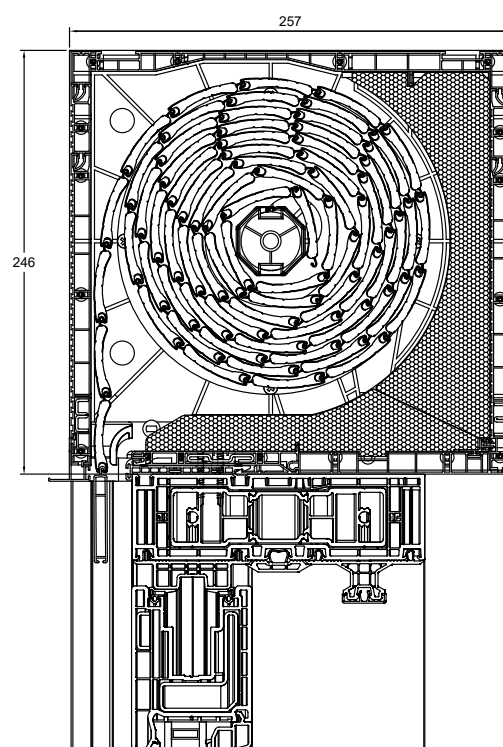
OB700 245x255



OB700 205x255 with front inspection opening

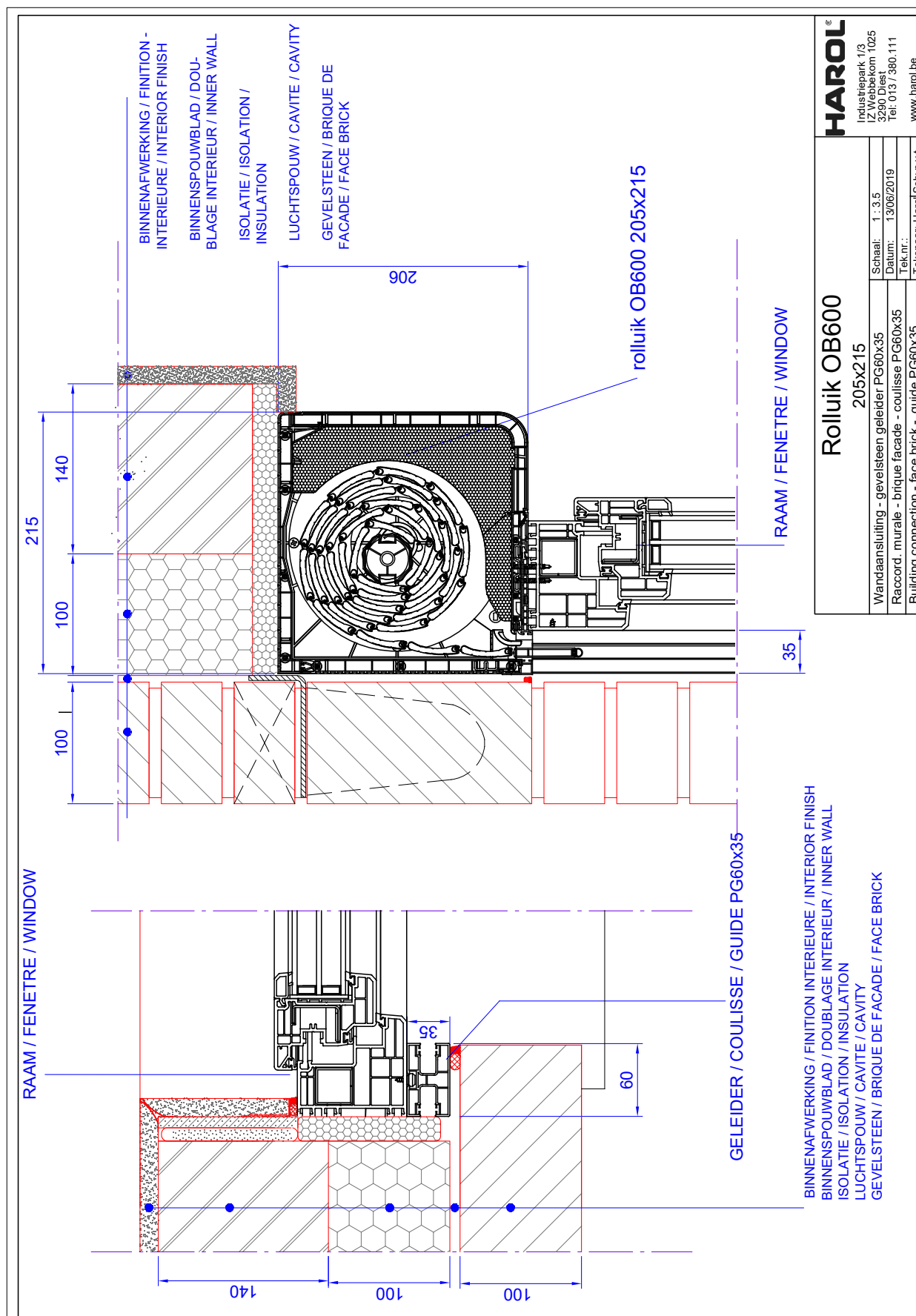


OB700 245x255 with front inspection opening



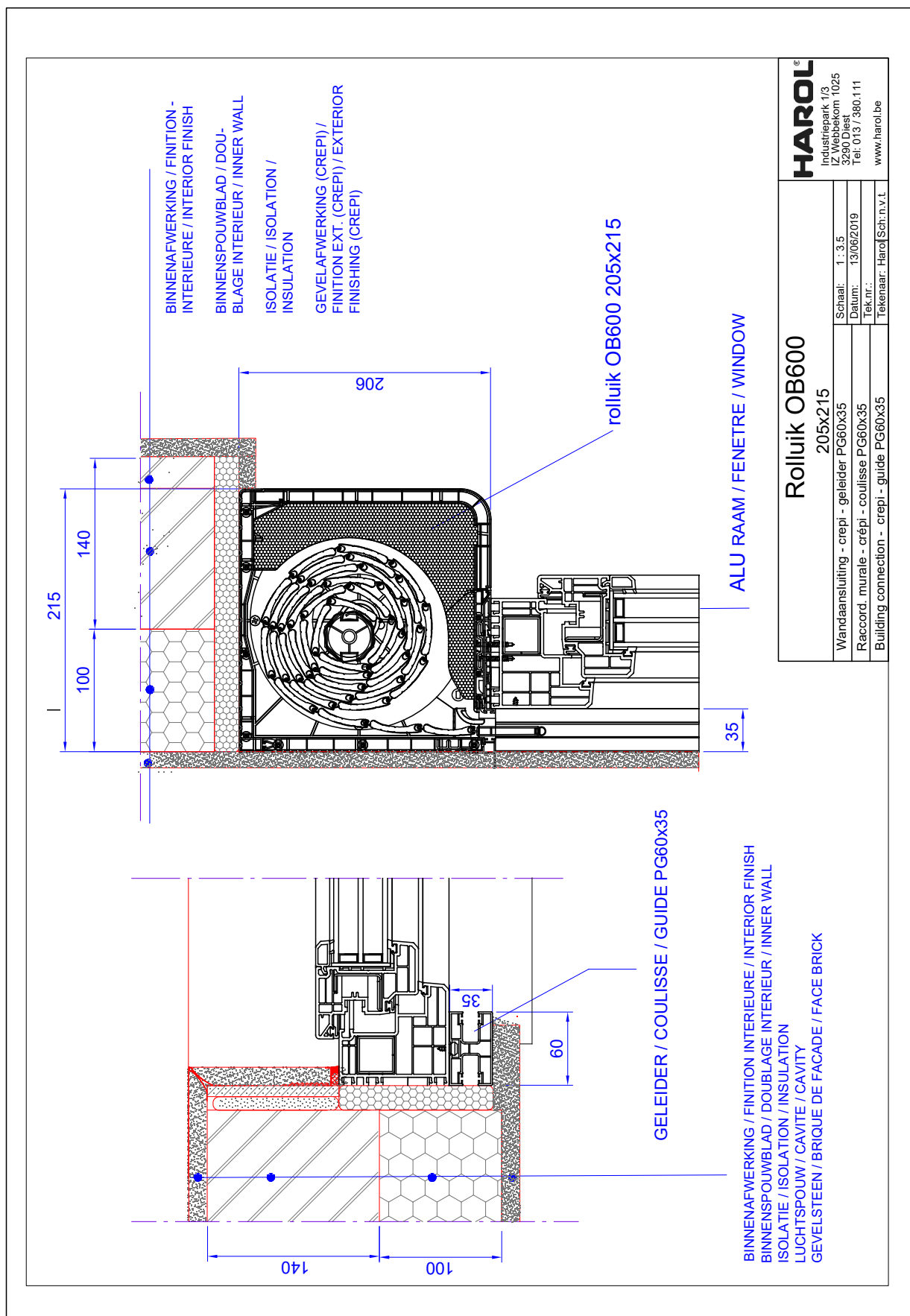
APPENDIX: WALL CONNECTIONS FOR

OB600 205x215 bricks

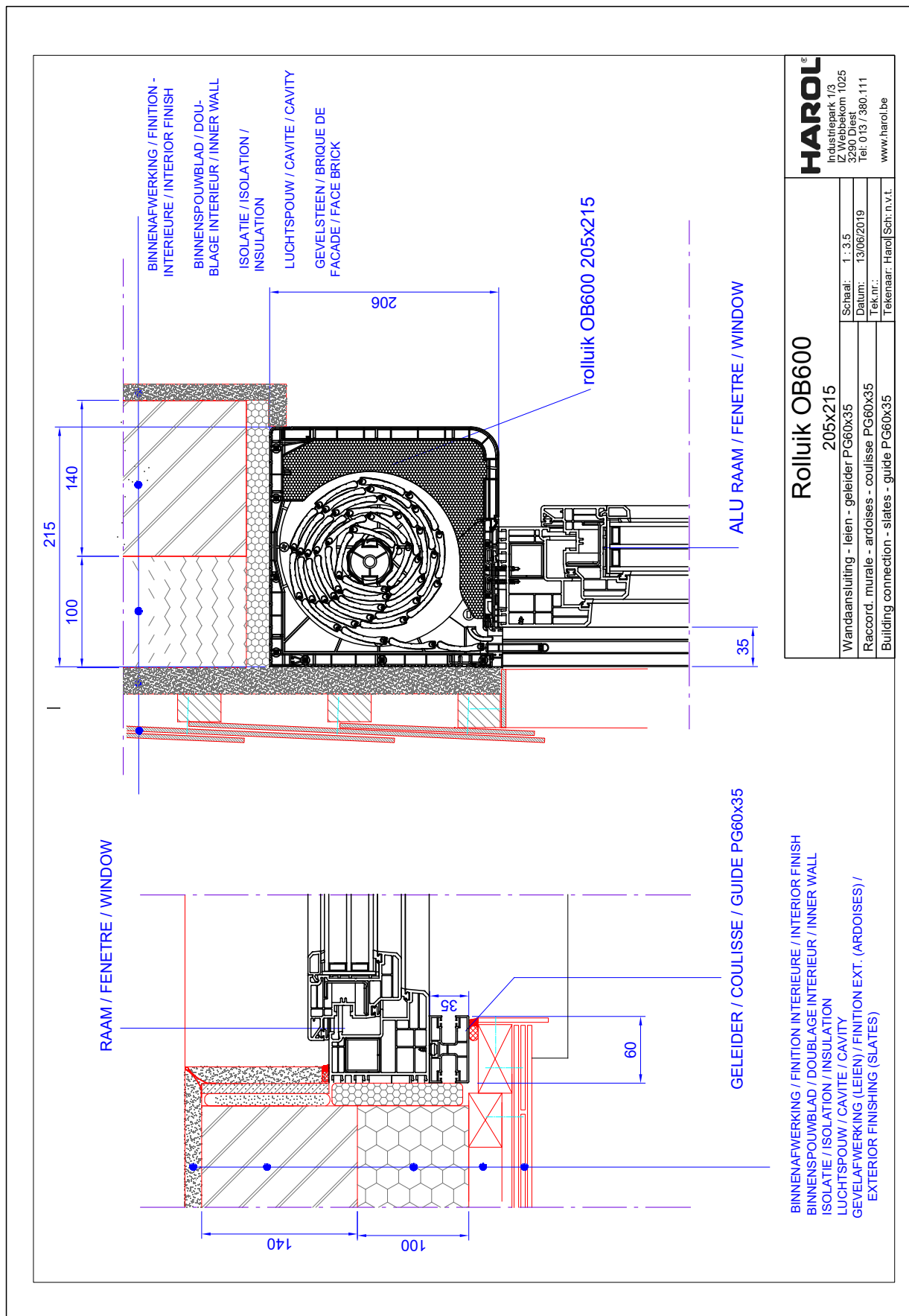


HAROL		Industriepark 1/3 12 Weibekom 1025 3230 Driesbeke Tel: 013 / 380.111 www.harol.be	
Rolluik OB600		Schaal: 1 : 3.5	
205x215		Datum: 13/06/2019	
Wandaansluiting - gevelsteen geleider PG60x35		Tek.n.: 1306/2019	
Raccord. murale - brique facade - coulisse PG60x35		Tekenaar: Harol Sch. n.v.t.	
Building connection - face brick - guide PG60x35			

OB600 205x215 plasterwork



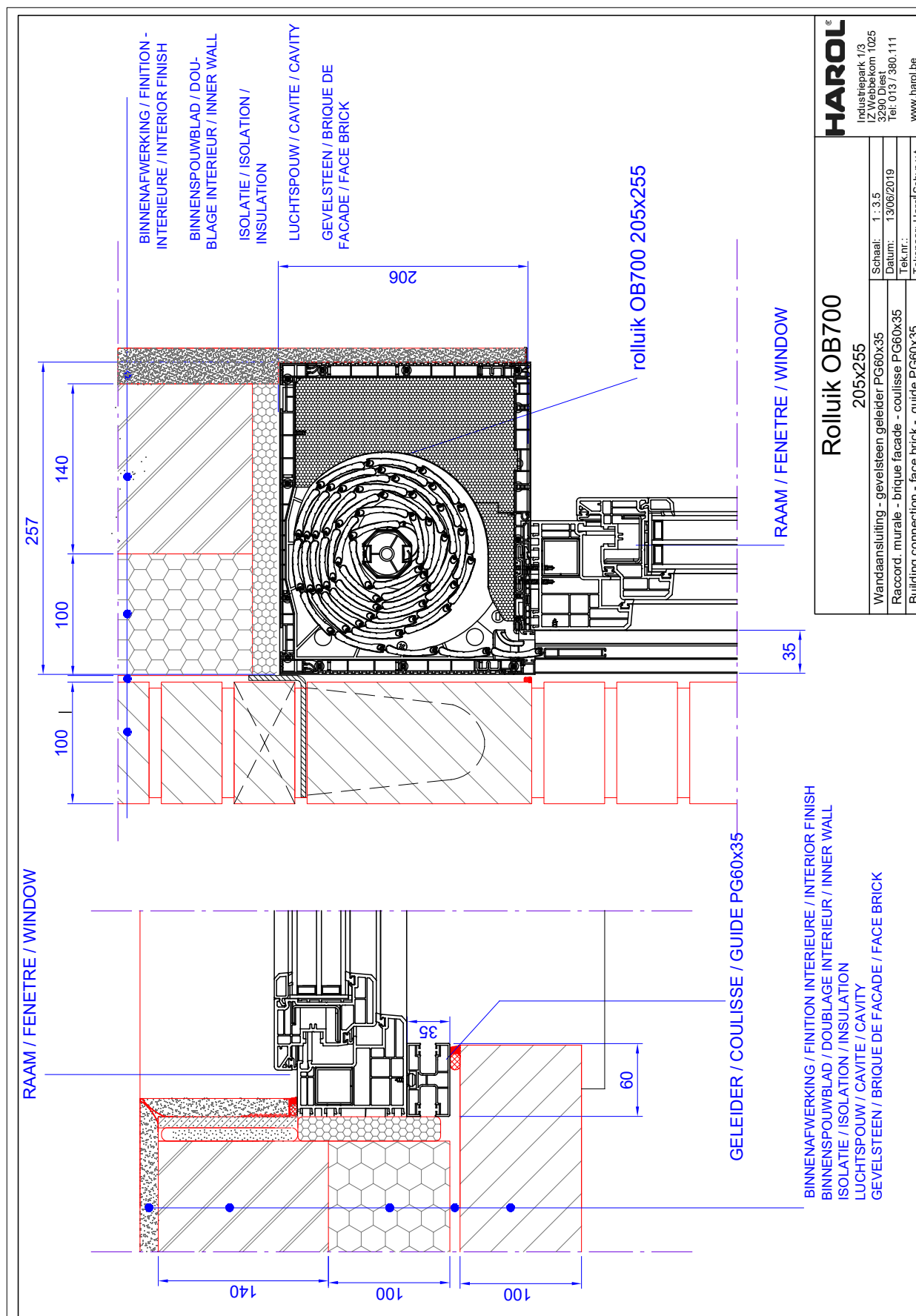
OB600 205x215 slates



Rolluik OB600		205x215	
Wandaansluiting - leien - geleider PG60x35	Schaal: 1:3.5	HAROL® Industriepark 1/3 IZ Webbekom 1025 3290 Dieet Tel. 013 / 380.111 www.harol.be	
Raccord. murale - ardoises - coulisse PG60x35	Datum: 13/06/2019		
Building connection - slates - guide PG60x35	Tekenaar: Harol Sch. n.v.t.		

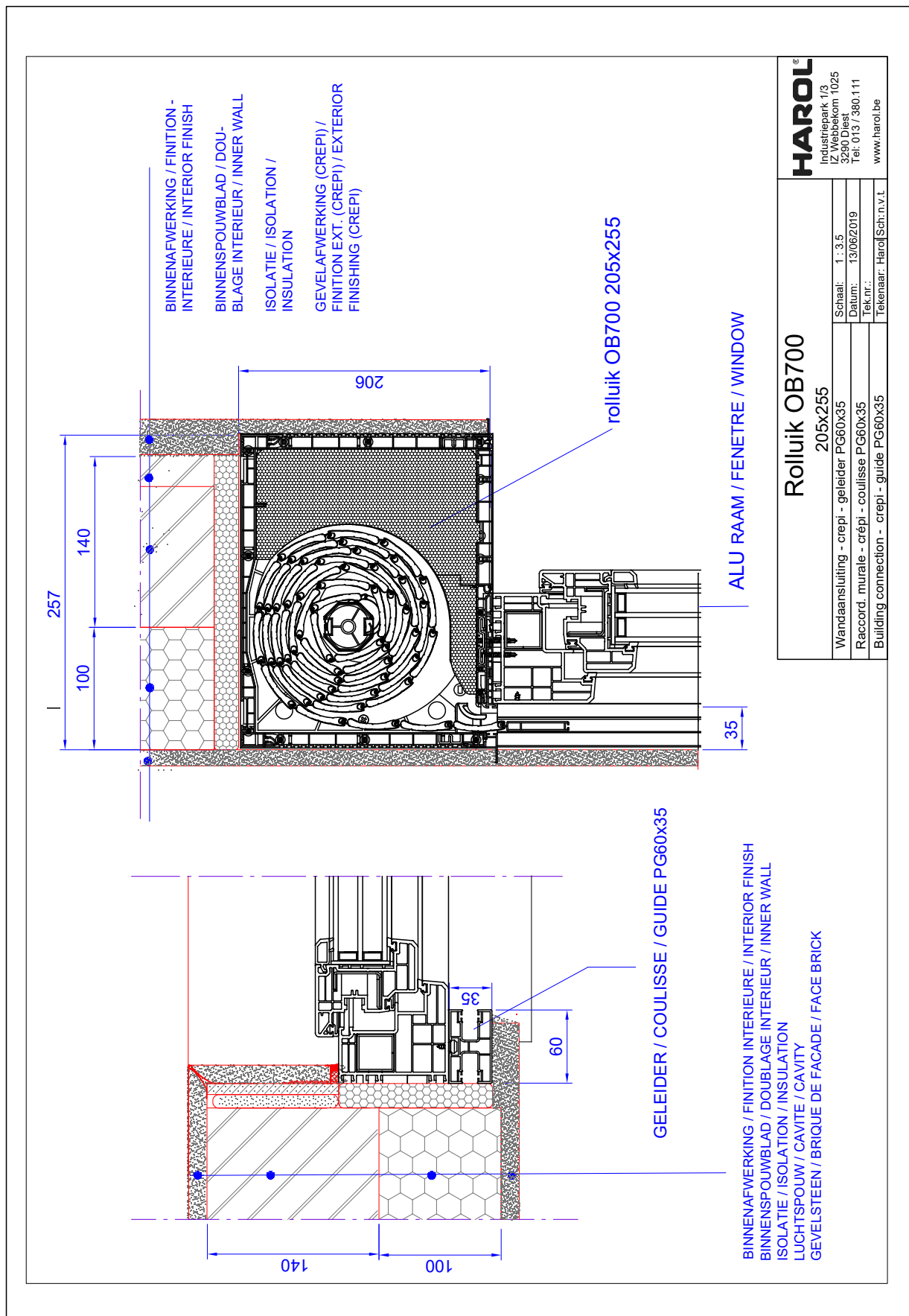
BINNENAFWERKING / FINITION INTERIEURE / INTERIOR FINISH
 BINNENSPOUWBLAD / DOUBLAGE INTERIEUR / INNER WALL
 ISOLATIE / ISOLATION / INSULATION
 LUCHTSPOUW / CAVITE / CAVITY
 GEVELAFWERKING (LEIEN) / FINITION EXT. (ARDOISES) /
 EXTERIOR FINISHING (SLATES)

OB700 205x245 bricks, inspection opening along the base

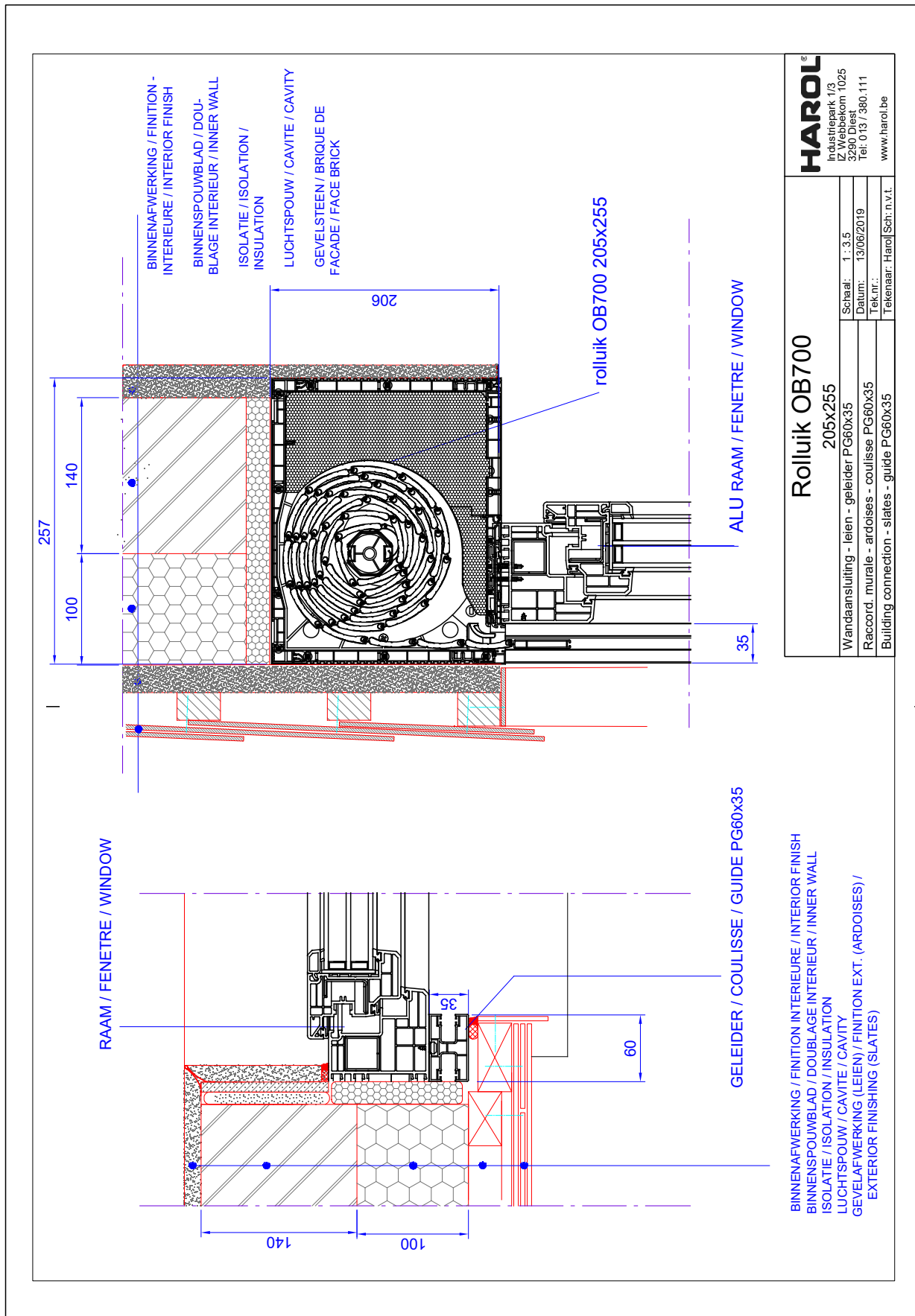


HAROL	
Industriepark 1/3 12 Weibekom 1025 3230 Driesbeke Tel: 013 / 380.111 www.harol.be	
Rolluik OB700	Schaal: 1 : 3.5
205x255	Datum: 13/06/2019
Wandaansluiting - gevelsteen geleider PG60x35	Tek.n.r.:
Raccord. murale - brique facade - coulisse PG60x35	Tekenaar: Harol Sch. n.v.t.
Building connection - face brick - guide PG60x35	

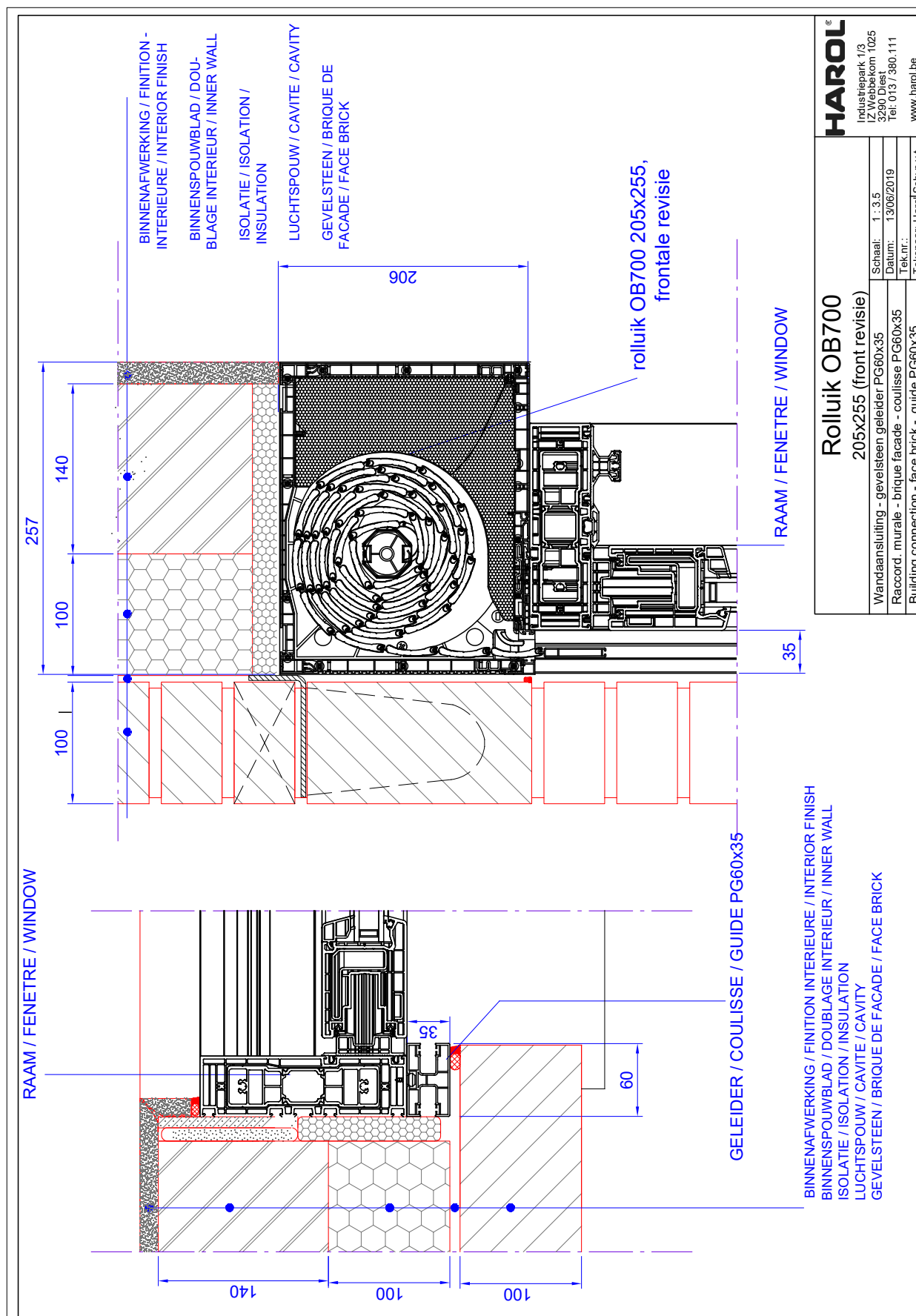
OB700 205x245 plasterwork, inspection opening along the base



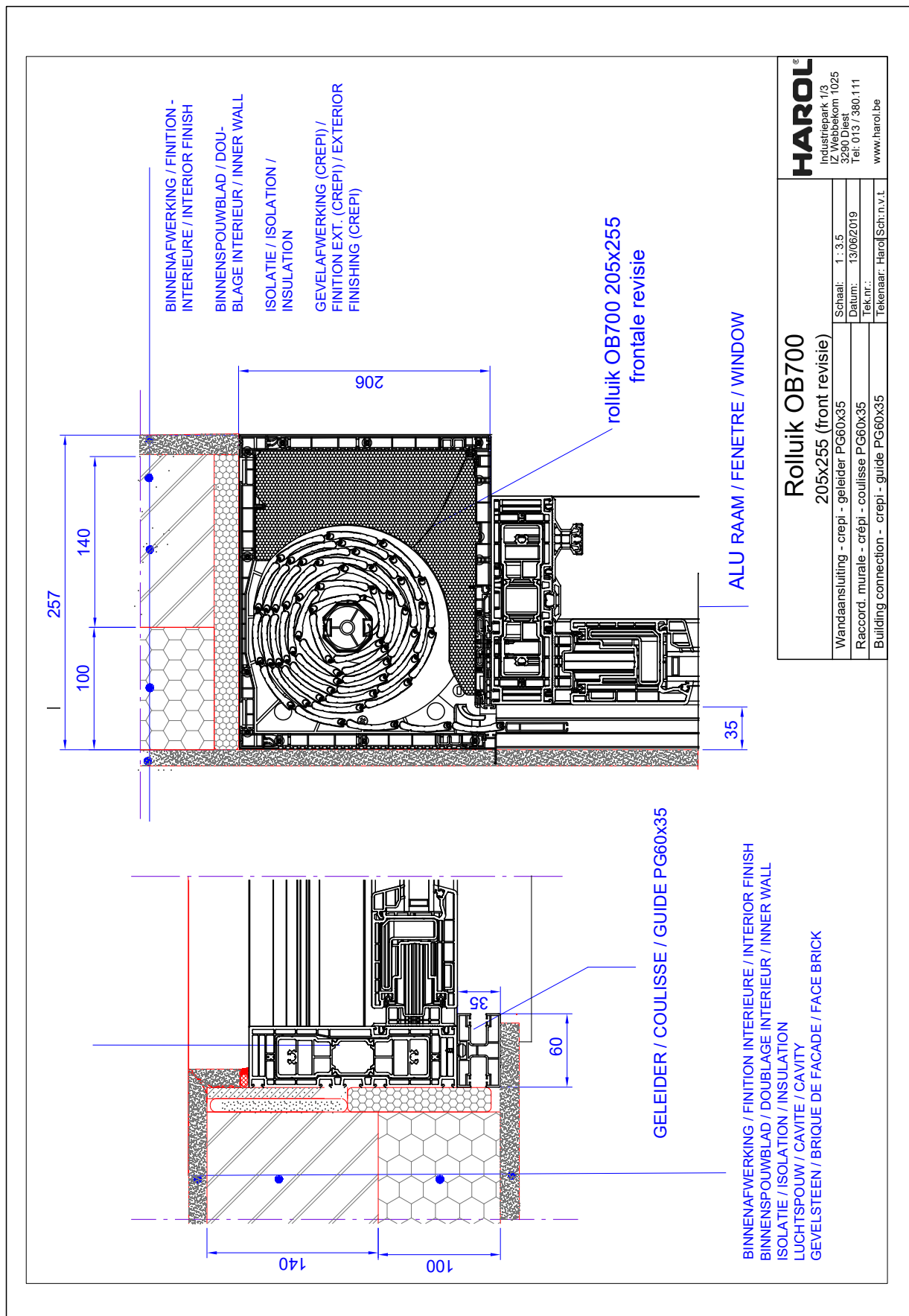
OB700 205x245 slates, inspection opening along the base



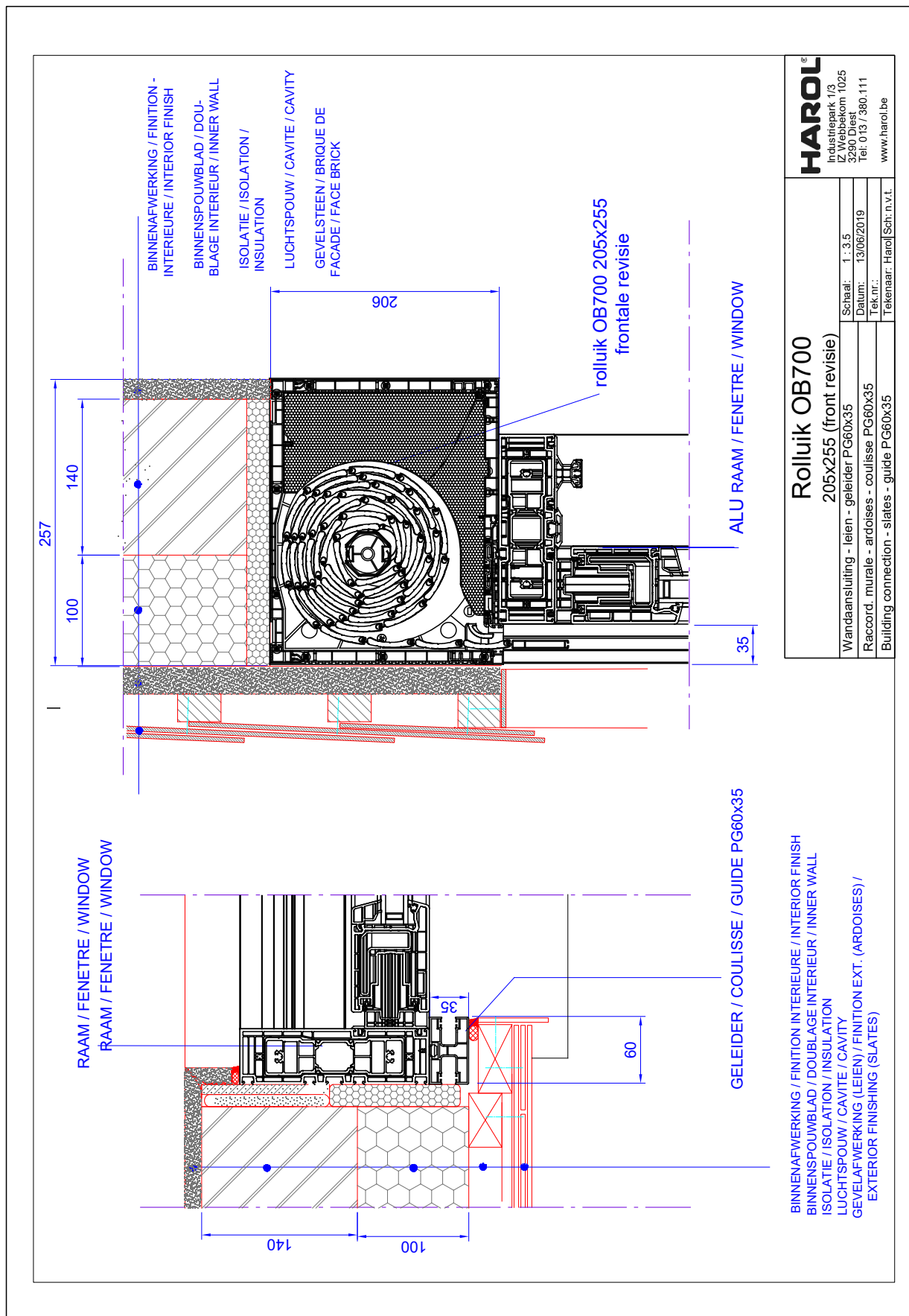
OB700 205x245 bricks, front inspection opening



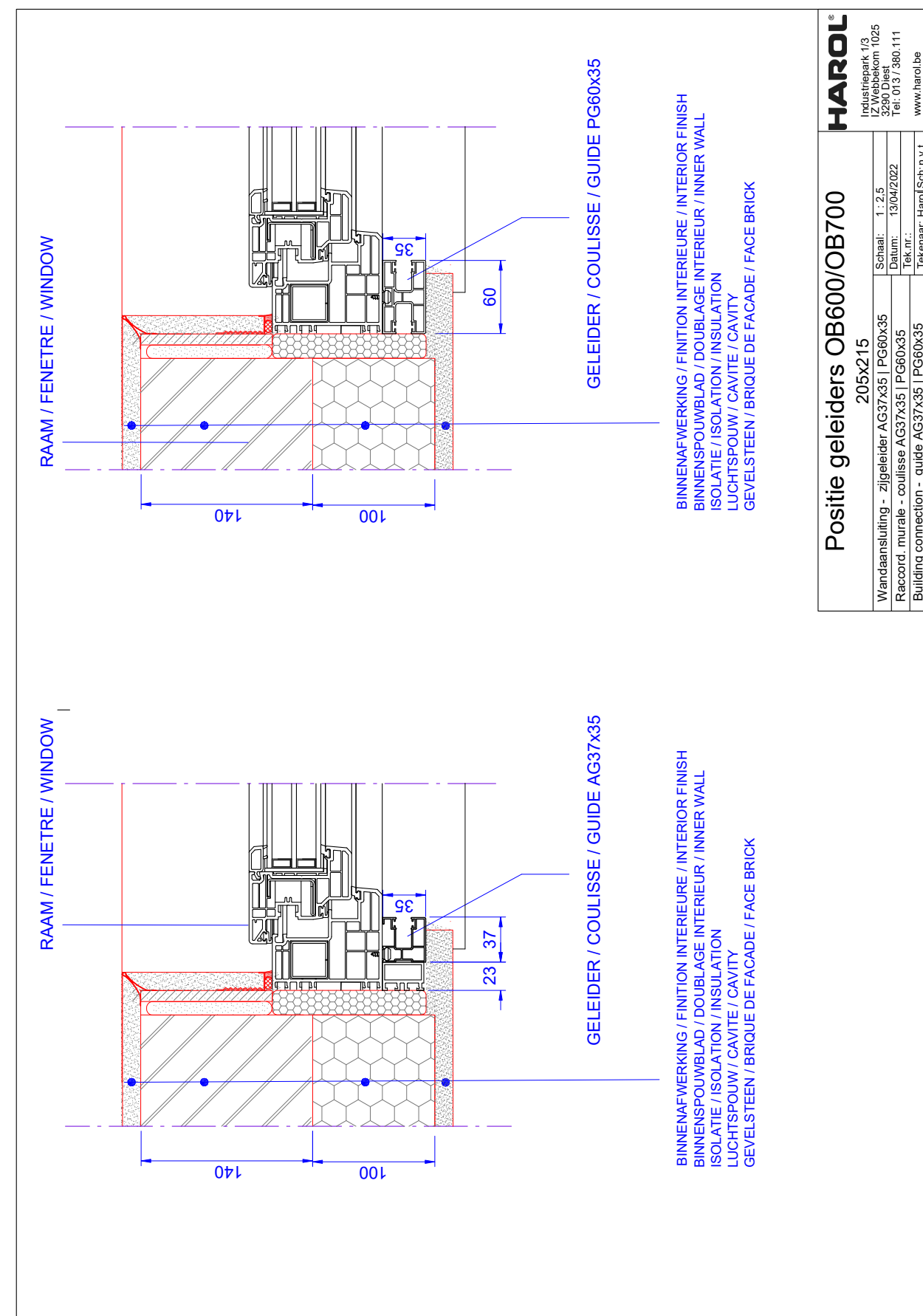
OB700 205x245 plasterwork, front inspection opening



OB700 205x245 slates, with front inspection opening



OB600-OB700 205x215 position lateral guides



11. ORDER FORM OB600 - OB700

Click on the link below:

Order form OB600 - OB700